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TRANSACTIONS

1894

TRANSACTIONS

OF THE

MEDICAL ASSOCIATION

OF

GEORGIA.

FORTY-FIFTH ANNUAL SESSION.

1894.

ATLANTA, GA.
PUBLISHED BY THE ASSOCIATION.
1894.

"RESOLVED, That this Association shall not be considered as indorsing views of authors of papers published in connection with the Transactions, unless definitely so indorsed in the Proceedings of the Association.

"RESOLVED, That the above resolution appear annually upon the title page of our published Proceedings."

Transactions 1873.

The Franklin Printing and Publishing Co., Atlanta, Ga.

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MINUTES

OF THE

Medical Association of Georgia.

FORTY-FIFTH ANNUAL SESSION.

FIRST DAY—MORNING SESSION.

ATLANTA, GA., April 18, 1894.

The Association convened in Concordia Hall, and was called to order by the President, Dr. W. H. Elliott, of Savannah, at 10 A. M.

Prayer was offered by the Rev. I. S. Hopkins, of Atlanta, after which the WELCOMING ADDRESS was delivered by the Hon. N. J. Hammond, as follows:

ADDRESS OF WELCOME.

Mr. President and Gentlemen of the Medical Association:

Both because in a few moments I must be in court, and because I desire to hear the response which shall be made to the words of welcome, I shall be very brief in the remarks I shall submit to your body. Doctors of medicine move not in crowds, nor even in pairs, because from the nature of their life-work it must be done singly. These annual meetings are to you very pleasant from a social standpoint. They are restful, and therefore beneficial. They are delightful on account of the associations which you meet. That single work of your life enforces personal research and develops decided individuality. He who fights death in his daily work must select the truest weapon and have unfaltering courage; that kind of training makes each man of you a

great repository of knowledge and observation. The communication of it to such a body as yours once a year is of great benefit to you individually, and edifying to the body collectively. Each man may not write a book; each man may not even write an essay, but here the result of his observation, his experience, his success, and his failures, may be given for the full benefit which shall be derived by reason of their consideration. Some of your papers, altogether maturely prepared and here discussed, are subsequently published as light to those who are away and guides to those who shall follow when you are gone.

Your Code of Ethics formed, polished, and now enforced, prevents all bickerings in the profession that can be done by dishonorable practices between yourselves and your patients, and protects society alike from the baleful influence of quacks and their dangerous nostrums. A more frequent and general publication of your rules would save your profession from unjust criticism and elevate you to the standard where society has placed you.

From such associations as these come new remedies for old and new diseases; new means of alleviating and destroying pain; new inventions, which, guided by skillful hands, backed by courageous minds, remove parts of the body which are dying, so that that which remains may live and rejoice as the habitation of the soul. For these and for like considerations your welcome would be great in any enlightened country. Especially is this Association of our State welcome in this, the capital of our State, renowned for its pluck and energy, for its general intelligence, its schools and its colleges, and more particularly its medical colleges, from which annually go out hundreds of young men to follow your example and bless society by improving and imitating your work.

Atlanta is always keenly alive to all material progress. She knows how your profession has added many years to the average of human life, and she knows that the health of her citizens is the wealth of the country. For these reasons she gladly welcomes you in her midst, and hopes that your sojourn here will be pleasant to you, as it certainly will be profitable to the city and to our State.

RESPONSE BY PRESIDENT ELLIOTT.

Gentlemen:

Dr. Williams, of Macon, had undertaken to reply to the eloquent words of welcome we have just heard, but as he is not present and I have not felt disposed to call upon any one of the members unexpectedly, I shall have to answer the address of welcome unexpectedly myself. I have only to say that we have received a hearty welcome from our own brethren, and as Judge Ham-

mond remarked his address would be short, so will my reply be brief. We feel honored in coming to this city, the capital of the State. We feel highly honored and are glad to come among our brethren whom we have known so long and so well in this city for many years, and without further remarks, we will be glad to make ourselves at home.

President Elliott then invited all ex-Presidents of the Association that were present to take seats on the platform, and Dr. J. B. S. Holmes and Dr. William O'Daniel responded.

In the absence of the first Vice-President Dr. Holmes was called to the chair, when President Elliott delivered his address. He selected for his subject "The Duty of the Physician to his Patient."

The address was listened to with marked attention, and was punctuated with applause during its delivery.

At its close Dr. T. S. Powell moved that the address of the President be not only published in the Transactions and medical journals but in the daily press.

Seconded and carried.

Dr. Mulligan moved that the clergy and visiting physicians, not members of the Association, be invited to take seats on the floor.

Seconded and carried.

The President then called for the report of the Committee of Arrangements.

Dr. Willis F. Westmoreland, Chairman of the committee, reported as follows:

REPORT OF COMMITTEE OF ARRANGEMENTS.

Gentlemen:

As Chairman of the Committee of Arrangements it affords me great pleasure to assure the members of this Association that the citizens of Atlanta, as well as the local physicians, have shown their appreciation of the honor conferred upon us by its decision to meet here in 1894, and that they have liberally shared in our duties.

Your Program Committee has ably prepared ample scientific

work for this meeting, and we realize fully the importance of completing it, and do not desire to interfere in any way. But we also realize that you are just from the fields of arduous professional labor, where you have been most intimately connected with the great drama of birth, life and death; and feel that in your coming to our city during this miracle of the springtime resurrection, these days when out of seeming death new life springs everywhere, that our greatest pleasure will consist in contributing to your rest, comfort and enjoyment while with us.

Through the courtesy of the Governing Committee the members of this Association who are not residents of this county will, while in the city, be the guests of the Capital City, the Commercial, the South Carolina Association, and the Piedmont Driving clubs. These badges which have been provided will afford you the *entrée* and entitle you to all the privileges of membership.

The Grady Hospital has extended to the Association a cordial invitation to visit this institution, and the members will be met at any hour by a reception committee composed of the resident medical staff, who will take pleasure in conducting them through the building. During the meeting they may be able to offer special cases for operation; to these operations the members of the Association will be invited, and the announcements will be made hereafter.

This afternoon at five o'clock cars will be at the disposal of the members of the Association to visit the different points of interest in and around the city. These cars will be in front of the hall.

On Thursday night a reception at the Capital City Club will be given to the Association. The members will please register as early as possible, so that they may secure their badges.

The Reception Committee at the Capital City Club reception will wear white badges for the same purpose.

The Committee of Arrangements reserves the right to add to this report at any time. Respectfully submitted,

WILLIS F. WESTMORELAND,
Chairman.

On motion, the report was accepted.

The President then called for the report of the Committee on Program, Dr. C. D. Hurt, Chairman.

Dr. Hurt: The report of this committee is quite brief. The duty of the committee was, as you know, to get up and formulate a list of papers which were to be presented and read at this meeting. This work your committee began in December last, and

issued a circular card to each and every member of the Association. We sent out over four hundred of these cards, and if there was a single name to whom the card was not addressed and mailed it was an oversight. In that card we reminded you of the fact that the meeting of the Association was to be held in April in Atlanta, and that we desired your presence in both the reading of papers and participating in the discussions. We suggested to you the propriety of having these papers ready and giving us the titles, so that we might get out the program in due time and not embarrass either the committee or the Association. The work of our committee, therefore, has been presented to you in this little program which you will find on the table.

I would like to say that a few members have at this late hour notified us that they will not be able to attend, and perhaps there are a few others who did not come here with the intention of reading papers, but who may be able to present some papers to the Committee on Program to fill the places of absentees, and your committee would like to have the privilege of swapping or changing the places of papers on the program, but, of course, it will be subject to the indorsement of the Association.

PROGRAM.

FIRST DAY.—WEDNESDAY, APRIL 18TH.

MORNING SESSION.—10 O'CLOCK.

Prayer, by Rev. I. S. Hopkins.
Address of Welcome, by Hon. N. J. Hammond.
Response, by W. H. Elliott.
President's Annual Address.
Report of Committee of Arrangements.
Report of Committee on Program.
Filling Vacancies on Board of Censors.
Application for Membership.

1. Treatment of Pneumonia, W. C. Humphries, M.D., Acworth.
2. Fluid Extract Jaborandi as an Abortive Treatment in Pneumonia, O. H. Buford, M.D., Cartersville.
3. Pathology and Treatment of Pneumonia, J. C. Johnson, M.D., Atlanta.

AFTERNOON SESSION.—2:30 O'CLOCK.

Report of Censors.
Application for Membership.
New Business.

4. Castration for Rape, J. G. Hopkins, M.D., Thomasville.

5. A Case of Sarcoma of the Ilium Following a Railway Injury, H. J. Williams, M.D., Macon.
6. Operation for Fibro-Cystic-Sarcoma Involving the Right Inferior Maxillary Bone, J. McFadden Gaston, M.D., Atlanta.
7. Malignant Growths of the Skin, Their Diagnosis and Treatment, M. B. Hutchins, M.D., Atlanta.
8. Suggestion and Its Therapeutic Uses, Samuel C. Benedict, M.D., Athens.
9. Treatment of Corneal Ulcers, with the Galvano-Cautery, A. G. Hobbs, M.D., Atlanta.
10. Chronic Sore Legs and How to Cure Them, J. W. Hallum, M.D., Carrollton.
11. Diagnosis, H. Perdue, M.D., Barnesville.
12. A Case of Gonorrhea in a Female, R. J. Nunn, M.D., Savannah.

SECOND DAY.—THURSDAY, APRIL 19TH.

MORNING SESSION.—9 O'CLOCK.

Reading of Minutes.
Applications for Membership.
Report of Board of Censors.
Report of Treasurer and Secretary.
Reports of Standing and Special Committees.
Appointment of Auditing Committee.

13. The Treatment of Typhoid Fever, M. A. Clark, M.D., Barnesville.
14. Appendicitis, with Report of Cases, Floyd W. McRae, M.D., Atlanta.
15. Some remarks upon Appendicitis and Report of Cases, W. S. Elkin, M.D., Atlanta.
16. The Termination of Appendicitis when not Subjected to Operation, A. M. Cartiledge, M.D., Louisville, Ky.
17. Foreign Bodies in Larynx, J. M. Hull, M.D., Augusta.
18. Report of Case of Inflammation of External Auditory Canal Following Facial Erysipelas, P. R. Cortelyou, M.D., Marietta.
19. Otorrhea, Dunbar Roy, M.D., Atlanta.

Orator's Address at 12 o'clock, Samuel C. Benedict, M.D., Athens.

AFTERNOON SESSION.—2:30 O'CLOCK.

Application for Membership.
Report of Board of Censors.
Unfinished Business.

20. Teething, H. McHatton, M.D., Macon.
21. Treatment of Surgical Shock, W. F. Westmoreland, M.D., Atlanta.
22. An Operation for Hemorrhoids, R. H. Taylor, M.D., Griffin.
23. The Time for Operation in Strangulated Hernia, W. P. Nicolson, M.D., Atlanta.
24. Primary and Diphtheritic Croup, the Operative and the Expectant or Medical Treatment, F. M. Ridley, M.D., LaGrange.
25. Drainage of the Peritoneal Cavity, the Use of the Siphon Pump, W. B. Gilmer, M.D., Macon.
26. Phlegmasia Alba Dolens, Geo. H. Noble, M.D., Atlanta.
27. Cancer of the Uterus, the Remote Result of Operative Interference, W. A. Crow, M.D., Atlanta.
28. Sacrificial Surgery of Ovaries, Tubes and Uterus, R. P. Cox, M.D., Rome.
29. Rare Cases in Obstetrics, W. F. Holt, M.D., Macon.
30. Trephining in Head Injuries, with Paralysis of Opposite Arm, Followed by Fungus Cerebri, R. M. Harbin, M.D., Calhoun.
31. The Extraction of Clear Lenses—Report of Five Cases, H. E. Stafford, M.D., New York.
32. A Cataract, J. H. Shorter, M.D., Macon.

THIRD DAY.—FRIDAY, APRIL 20TH.

MORNING SESSION.—9 O'CLOCK.

Reading of Minutes.
Application for Membership.
Report of Board of Censors.

33. Conjunctival Cysts in each Eye, W. L. Bullard, M.D., Columbus.
34. Nasal Sprays—What to Use, Geo. W. Brown, M.D., Atlanta.

ELECTION OF OFFICERS, 11 O'CLOCK.

35. Typhoid and Typho-Malarial Fevers, Their Differential and Characteristic Features, A. A. Smith, M.D., Hawkinsville.
36. Case Report: Extra-Uterine Superfetation, R. R. Kime, M.D., Atlanta.
37. A Case of Extra-Uterine Pregnancy, J. G. Earnest, M.D., Atlanta.
38. Treatment of Traumatic Epilepsy, with Report of Cases, J. I. Darby, M.D., Americus.
39. Galvanism in Office Practice and in Gynecology, L. C. LeHardy, M.D., Savannah.
40. The Tampon in Gynecology, J. C. Avary, M.D., Atlanta.

41. A Plea for the Closer Recognition of Dermatology as a Specialty, Bernard Wolff, M.D., Atlanta.

AFTERNOON SESSION.—2:30 O'CLOCK.

Application for Membership.
Report of Board of Censors.

42. The General Practitioner Versus Gynecology, Preventive and Non-Preventive, R. R. Kime, M.D., Atlanta.
43. Medical Legislation, A. C. Blain, M.D., Macon.
44. La Grippe—Some Unusual Sequences—Cases, J. M. Head, M.D., Zebulon.
45. Treatment Compound Fracture of the Skull, W. S. Goldsmith, M.D., Atlanta.
46. The Recent Outbreak of Small-Pox in Atlanta, J. C. Avary, M.D., Atlanta.
47. Suture of the Tendo-Achillis—Report of Case and Exhibition of Patient, L. B. Grandy, M.D., Atlanta.
48. Endometritis, Cervical and Corporal Pathology, Symptomatology and Treatment, W. W. Stewart, M.D., Columbus.

Installation of New Officers.
Appointment of Annual Orator.

W. H. ELLIOTT, M.D., President.
DAN H. HOWELL, M.D., Secretary.

Dr. W. H. Doughty, Jr.: I move that the report be accepted, and that the committee be tendered the thanks of the Association for the zeal and efficient manner in which they have performed their duty.

Seconded and carried.

The President appointed to fill vacancies on the Board of Censors Drs. Cox, Mulligan and Taylor.

The reading of papers was then proceeded with, and the first paper read was by Dr. W. C. Humphries, of Acworth, entitled "Treatment of Pneumonia."

Dr. O. H. Buford, of Cartersville, contributed a paper on "Fluid Extract of Jaborandi as an Abortive Treatment in Pneumonia," and Dr. T. M. Greenwood, of Mineral Bluff, one entitled "Abortive Treatment of Pneumonia."

These papers were discussed jointly by Drs. Webb, Kime, Doughty and O'Daniel.

On motion, the Association adjourned until 2:30 P. M.

FIRST DAY—AFTERNOON SESSION.

The Association reassembled at 2:30 P. M., and was called to order by the President.

The Board of Censors, through its Chairman, Dr. Wm. O'Daniel, reported favorably on the names submitted to it for membership, and they were all elected separately with the exception of the name of Dr. Bosworth. This gentleman's election was opposed by several members on account of irregular methods of advertising, which are not considered in conformity with the Code of Ethics of the Association.

Dr. E. C. Goodrich moved that it require a unanimous vote of the Association to admit any member.

Seconded.

A unanimous vote was opposed by some of the members.

Dr. F. W. McRae moved, as an amendment, that a three-fourths vote elect, which was seconded and carried.

Dr. W. A. Love then moved that the application of Dr. Bosworth be recommitted to the Board of Censors with the request that they investigate the matter of irregularity, and have a conference with the applicant and report to the Association to-morrow morning. By so doing he thought the Association would have more light and would be in a better position to take action, and it would neither do an injustice to the applicant nor to the Association.

Seconded and carried, and the application was so referred.

Under the head of "New Business" the Secretary stated that the amendment to the Constitution, offered at the last meeting by Dr. J. G. Hopkins, was to be voted upon.

In courtesy to the mover of the amendment, Dr. E. C. Goodrich made a motion that it lay over until the next meeting, as Dr. Hopkins was absent.

Seconded and carried.

Dr. H. J. Williams, of Macon, read a paper entitled "A Case of Sarcoma of the Ilium Following a Railroad Injury."

Dr. J. McFadden Gaston, of Atlanta, followed with a paper entitled "Operation for Fibro-Cystic Sarcoma Involving the Right Inferior Maxillary Bone."

Dr. M. B. Hutchins, of Atlanta, read a paper on "Malignant Growths of the Skin; Their Diagnosis and Treatment," which was discussed by Dr. Elliott.

Dr. Arthur G. Hobbs, of Atlanta, read a paper entitled "Treatment of Corneal Ulcers with the Galvano-cautery," which was discussed by Drs. Shorter, Cotter, and, in closing, by the author.

Dr. J. W. Hallum, of Carrollton, read a paper entitled "Chronic Sore Legs and How to Cure Them," which was discussed by Drs. McRae, Elliott, and discussion closed by the author.

The Board of Censors reported favorably on further applications for membership, and, on motion, the applicants were declared duly elected.

The Chairman of the Board of Censors made a report with reference to the matter reflecting on the Atlanta Medical College, stating that it had been brought to the attention of the board, but that the board reports to the Association that in their opinion the matter is beyond their jurisdiction, and that they therefore return the papers to the Association without any recommendation, inasmuch as no specific charges had been preferred against any individual member or members of the Association.

After considerable discussion, participated in by Drs. Nicolson, Kendrick and others, a motion was made to adopt the report of the Board of Censors as presented, which was seconded and carried.

On motion, the Association adjourned until Thursday, 9:00 A. M.

SECOND DAY—MORNING SESSION.

The Association met at 9:00 A. M., and was called to order by the President.

Dr. J. B. S. Holmes, of Atlanta, said that there was a distinguished physician present from a neighboring State, and moved that he be extended the privileges of the Association and be permitted to join in the discussions.

Carried.

He then introduced Dr. Richard Douglas, of Nashville, Tenn.

Dr. Douglas: Mr. President, I certainly appreciate the courtesy and hospitality of this Association. When I received a program from your worthy Secretary, I was impressed with its excellence and completeness, and I am glad to avail myself of this opportunity to meet the profession of Georgia. I did not come here expecting to participate in your discussions, yet if occasion offers and I can say anything of interest to you, I shall avail myself of your privileges.

Secretary Howell read the minutes of the previous session, which, after one or two slight corrections, were approved.

The President called for the reading of the reports of both the Secretary and Treasurer, but these gentlemen asked for further time, which was granted.

The President appointed as Auditing Committee Drs. Todd, Cotter and McRae.

A report from the Committee on Necrology was called for, but there was no response.

The report of the Committee on Prize Essays was called, but had no report to make.

The report of the Committee on Correspondence for new members was called. No report.

Report of Special Committee on Legislation, Dr. J. B. S. Holmes, Chairman, was called for, when Dr. Holmes arose and said:

REPORT OF SPECIAL COMMITTEE ON LEGISLATION.

Mr. President and Gentlemen:

As Chairman of the Committee on Legislation, I beg to report that I had five hundred copies of the bill to establish a Board of Medical Examiners printed, and copies of it with a personal letter were sent to each member of both branches of the General Assembly. From most of those members I had a response and almost all of them were favorable to the bill. When the legislature convened, I called the committee together, and I believe there were only two members absent. This committee in connection with the committee from the Atlanta Society of Medicine went before the legislature and presented our claims. It was fought in every conceivable way by eclectics, homeopaths and all classes of irregulars. The bill was finally defeated. I believe it was proposed as an amendment to it that three separate and distinct boards be created, one being composed of regulars, one of eclectics and one of homeopaths, and in that form the bill was killed before the Judiciary Committee. I do not think it was presented to the house at all. From the letters I received from members of the assembly I was led to believe that we would have no difficulty in passing the bill, but some influence was brought to bear upon it that caused them to change their views in regard to it. I am sorry I cannot make a favorable report. However, we should not relax our efforts at all. The measure is such an important one that we should go to work with renewed energy. It is the duty of every member of this Association to go faithfully to work and do all he can for its passage.

Dr. R. E. Griggs, of Columbus: I was in Atlanta last fall when the committee met, and I can assure the members of this Association that Dr. Holmes worked faithfully for the passage of this bill, and I do not believe in giving up such an important measure. It is an important step, and one I think in the right direction. I therefore move that we reappoint this committee with Dr. Holmes as Chairman.

Dr. J. S. Todd: I second the motion. Every gentleman here knows, if he read Dr. Holmes's circular, how faithfully he worked and what a magnificent working Chairman he

made. I think it is due him that the committee be reappointed, with especial thanks to Dr. Holmes for his unremitting efforts to secure this legislation.

Dr. Holmes: I promise to work with renewed energy, but I must ask the co-operation of every member of this Association. If they will give it to me, I will go home and go to work with renewed energy. If the members will work amongst their contemplated representatives we can get the bill passed. If they do not do it, it will meet with the same fate as before.

The President: I think Dr. Holmes is perfectly correct. This matter can better be done in separate counties, and it cannot be done in the General Assembly. After they get here there is too much "log-rolling."

Dr. S. C. Benedict: As a member of this committee, I think the members will agree with me that the best worker we had in the legislature was Hon. W. H. Fleming, of Augusta, who has just met with a serious accident. If we had such members as he, we would not have a bit of trouble with homeopaths and eclectics.

Dr. R. E. Griggs, of Columbus, called the attention of the Association to the death of Dr. Engram, a member of the committee.

The motion was then put by the chair and carried.

Dr. J. B. S. Holmes: As a recognition of the services of the Hon. W. H. Fleming in our behalf, I move that the Secretary be instructed to tender the sympathies of this Association to Mr. Fleming in the recent misfortune which he has just met—a severe kick in the face by his horse with the loss, I believe, of one eye.

Seconded.

Dr. E. C. Goodrich offered, as an amendment, that the letter of sympathy be sent in the form of a telegram.

Carried.

The President then called for the report of the Special Committee on Asylum Legislation, Dr. R. E. Griggs, of Columbus, Chairman.

Dr. Griggs reported as follows:

REPORT OF SPECIAL COMMITTEE ON ASYLUM LEGISLATION.

Gentlemen of the Georgia Medical Association:

Your Committee on Asylum Legislation, appointed on the 20 h of last April during the meeting of the Association at Americus, beg leave to submit the following report:

As Chairman of the Committee, Dr. R. E. Griggs called them together in Atlanta on the first day of November and requested as many members as possible to meet in Milledgeville the day previous to personally inspect the Asylum, so as to be prepared to make such suggestions as were needed to the committee meeting in Atlanta. After carefully looking into the needs and requirements of the Asylum, the committee met at the office of Dr. Dan Howell, and Dr. Griggs submitted to them his report, showing the urgent necessity for enlarging the Asylum at once, owing to the fearfully overcrowded condition and to the numerous applications (numbering over one hundred) from all parts of the State for permission to send on to the Asylum inmates then confined in the various county prisons and already ordered to the Asylum. The members of the committee unanimously decided to request of the legislature an appropriation of $150,000, and to urge in every way the passage of such an act.

To this end your committee directed its Chairman to address the members of the legislature a letter, sending it to representatives and senators also, and to mail a copy to each daily and weekly paper in the State.

The Special Committee from the Senate and House met your committee and concurred in our request for the appropriation of $150,000 and urged its passage in their respective bodies, and you know with what success. The legislature made an appropriation of $100,000 for the purposes desired, and your committee feels very highly gratified at their being in some manner instrumental in obtaining this result

In conclusion, as Chairman of the committee, I desire to personally extend our thanks for numerous courtesies to the Board of Trustees and to Dr. Powell, the Superintendent of the Asylum,

also to each member of the Special Joint Committee from the legislature.

(Signed) R. E. GRIGGS, Chairman,
M. L. BOYD,
P. L. HILSMAN,
J. D. HERMAN,
W. F. WESTMORELAND,
K. P. MOORE,
F. R. CALHOUN,
JOHN GERDINE,
T. D. MCKOWN,
H. B. MCMASTER,
M. L. CURRIE.

On motion of Dr. F. W. McRae, the report was accepted and the thanks of the Association extended to the committee for their efficient work.

The reading of papers was again resumed, and Dr. H. Perdue, of Barnesville, read a paper entitled "Diagnosis."

Discussed by Dr. Webb.

Dr. Luther B. Grandy, of Atlanta, reported a case of "Suture of the Tendo-Achillis," and exhibited the patient.

The report was discussed by Dr. Battey of Rome, and Dr. William O'Daniel of Bullard.

Dr. J. B. S. Holmes, of Atlanta, followed with a paper entitled "Making and Closing the Incision in Abdominal Section."

At this juncture, on motion, the courtesies and privileges of the Association were extended to Dr. H. E. Stafford, of New York.

Dr. F. W. McRae, of Atlanta, contributed a paper entitled "Appendicitis, with Report of Cases."

This paper was discussed by Drs. Elkin, R. E. Griggs, Kime, Nicolson, Cooper, Noble, Westmoreland, Avary, and, in closing, by the essayist.

Dr. Samuel C. Benedict, of Athens, then delivered the Orator's Address. He selected for his subject, "Suggestion and its Therapeutic Uses."

On motion, the Association adjourned until 2:30 P. M.

SECOND DAY—AFTERNOON SESSION.

The Association reassembled at 2:30 P. M., and was called to order by the President.

Dr. P. R. Cortelyou, of Marietta, read a paper entitled "A Case of Inflammation of External Auditory Canal Following Facial Erysipelas."

Discussed by Drs. Cotter, Shorter, and, in closing, by the essayist.

Dr. Dunbar Roy, of Atlanta, contributed a paper on "Chronic Otorrhea, its Significance and Treatment," which was discussed by Drs. Shorter, Cortelyou, and Cotter.

Dr. J. H. Shorter, of Macon, read a paper on "Cataract."

The paper of Dr. Westmoreland was called for, which was entitled "Surgical Shock."

Dr. Westmoreland said that his paper was not ready, but that Dr. Douglas would consume his time in making some remarks on the subject.

Dr. Richard Douglas, of Nashville, Tenn., then addressed the Association on "Surgical Shock."

At the conclusion of his remarks the President thanked him for his exceedingly clear and brilliant statements in regard to the subject.

Here an effort was made to reopen the subject of the election of Dr. Bosworth, but the President shut off further remarks on this subject, saying that Dr. Bosworth had been elected a member of the Association.

Dr. Noble appealed from the decision of the chair, but the chair was sustained in his ruling by the Association.

Dr. Noble then read the following:

Mr. President:

We, the undersigned members of the Medical Association of Georgia, hereby request you to direct the Secretary to record our names upon the minutes of the Association as opposing the viola-

tion of the Code of Ethics in the election of persons to membership who are not known to be regular practicing physicians:

J. C. Olmsted,	S. Rumble,	John G. Earnest,
C. C. Greene,	M. B. Hutchins,	L. B. Grandy,
V. H. Taliaferro,	F. M. Ridley,	J. W. Hallum,
T. M. Greenwood,	A. W. Griggs,	J. H. Shorter,
Geo. H. Noble,	Hugh Hagan,	W. S. Kendrick,
Dunbar Roy,	H. P. Cooper,	S. C. Benedict,
C. S. Webb,	W. C. Jarnagin,	A. G. Hobbs,
Will L. Dean,	W. F. Westmoreland,	W. S. Goldsmith,
M. A. Purse,	J. S. Tankersley,	L. H. Jones,
J. C. Avary,	E. C. Goodrich,	J. C. Johnson,
J. W. Bailey,	L. P. Stephens,	D. H. Howell,
A. W. Calhoun.	G. G. Roy,	N. O. Harris,
W. S. Armstrong,	V. O. Hardon,	J. M. Glass.
James B. Baird,		

Dr. R. H. Taylor, of Griffin, read a paper entitled "An Operation for Hemorrhoids."

The paper was discussed by Drs. Hallum and Harbin.

Dr. R. P. Cox, of Rome, followed with a paper entitled "Sacrificial Surgery of the Ovaries, Tubes and Uterus."

Dr. W. B. Gilmer, of Macon, read a paper entitled "Drainage of the Peritoneal Cavity with the Use of the Siphon Pump."

Discussed by Drs. Elliott, Douglas, Horsley and Slack.

On motion of Dr. Elliott, the Secretary was instructed to procure diagrams of the apparatus exhibited by Dr. Gilmer for publication in the Transactions.

On motion, the Association adjourned until Friday, 9:00 A. M.

THIRD DAY—MORNING SESSION.

The Association met at 9:00 A. M., and was called to order by the President.

Dr. Gaston offered the following resolution, which was adopted:

Whereas, The American Medical Association at its last meeting provided for an expression in regard to the Code of Ethics from

the different State Associations to be laid before the forthcoming meeting at San Francisco, it is hereby

***Resolved*, That the Medical Association of Georgia reasserts its adoption of, and conformity to, the Code of Ethics of the American Medical Association, as heretofore recognized by that body, and authorizes this record of its adherence to the same.**

On motion, the Secretary was instructed to communicate this action directly to the Secretary of the American Medical Association.

Dr. R. M. Harbin, of Calhoun, then read a paper on "Trephining in Head Injuries, with Paralysis of the Opposite Arm, Followed by Fungus Cerebri."

Discussed by Drs. Gaston, Love, Poole, McHatton, R. E. Griggs, A. W. Griggs and T. R. Garlington.

Dr. Harbin: We have with us Dr. Frank Trester Smith, of Chattanooga, the Secretary of the Tri-State Medical Society. I move that he be extended the privilege of taking part in our discussions.

Carried.

Dr. Smith: I thank the Association for the courtesy extended to me. While I am on my feet I would like to invite the members to attend our meeting here in the fall, the Tri-State Medical Association. We meet in this city in October next.

Dr. George H. Noble, of Atlanta, read a paper entitled "Phlegmasia Alba Dolens."

Dr. C. D. Hurt, in view of the limited time before the close of the meeting, moved that the discussion on papers be dispensed with.

Seconded.

Dr. E. C. Goodrich moved, as an amendment, that the discussions be limited to three minutes for each speaker.

Seconded.

Dr. D. H. Howell moved that the motion to cut off discussion be laid on the table, which was carried.

A paper by Dr. J. B. S. Holmes on "Nephrectomy for

Sarcoma, with Exhibition of Specimen," was read by title. The specimen, however, was passed around the hall among the members.

The Treasurer, Dr. Goodrich, then read his report as follows:

REPORT OF THE TREASURER.

To the Medical Association of Georgia:

GENTLEMEN—In making my usual report, I call attention to the fact that the balance on hand is somewhat smaller than it has been for several years. This is doubtless due to the stringent financial times, which has affected the doctors probably more than any other class of citizens. I must thank the members for their uniform courtesy and patience in receiving my numerous "duns." It is only by these little reminders that I can keep up my work and continue the Association in its present flourishing financial condition.

I report as follows:

DR.

To balance on hand as per last report	$ 809 58
To amount received from new members, 1893	260 00
To amount collected (dues) during year	670 00
	$1,739 58

CR.

By amount paid out as per accompanying vouchers	$1,117 34
Leaving balance in treasury	$ 622 24

Respectfully submitted.

E. C. GOODRICH, Treasurer.

On motion, the report was adopted.

The report of the Secretary was next read, as follows:

To the Medical Association of Georgia:

I beg herewith to submit my report as Secretary, for the year ending April 17, 1894:

CR.

By amounts received from Treasurer as per vouchers in his hands for printing 450 Transactions	$ 543 58
For postage, etc.	70 00
For postage	20 00
By amount received in dues collected and not remitted	12 00
	$ 645 58

DR.

To amount paid out for printing Transactions	$ 543 58
To amount paid out for mailing Transactions	73 60
To amount paid out for postage for sending back numbers to other Societies, for correspondence, for mailing notices to journals, telegrams, etc., from August 28, 1893, to April 17, 1894	28 40
	$ 645 58

Respectfully submitted.

DAN H. HOWELL, Secretary.

On motion, the reports were accepted and adopted and referred to the Auditing Committee.

The Auditing Committee reported through its Chairman, Dr. Todd, as follows;

GENTLEMEN—We, the undersigned committee, appointed to examine the reports of the Secretary and books of the Treasurer, find the proper vouchers and the books correctly and neatly kept, with a balance of $622.24 now in the hands of the Treasurer.

(Signed) J. S. TODD,
R. O. COTTER,
L. G. HARDMAN,
Auditing Committee.

We further recommend that the Secretary be paid $150, and the Treasurer be paid $100, for their services.

Dr. Westmoreland moved that the honorarium of the Secretary be made $230 instead of $150, as recommended by the committee, he paying the stenographer.

With this amendment the report was adopted.

The election of officers was proceeded with, and the following were elected for the ensuing year:

President, Dr. Willis F. Westmoreland, Atlanta.

First Vice-President, Dr. R. H. Taylor, Griffin.

Second Vice-President, Dr. William Tate, Tate.

Secretary, Dr. Dan H. Howell, Atlanta.

Treasurer, Dr. E. C. Goodrich, Augusta.

Censors, Dr. Frank M. Ridley, LaGrange, and Dr. W. H. Doughty, Jr., Augusta.

Just as soon as Dr. Westmoreland was declared elected President, he was called on for a speech. He said:

Mr. President and Gentlemen:

I am naturally a very modest man, and I am sure no one can appreciate the honor which you have conferred upon me any more than I do. I am not much of a speech-maker, and I am quite sure that no expression of words can express the feelings for the honor you have done me. Words are very empty sometimes in our expressions of appreciation, and all that I can say is that I will do the best I can for the good of the Association and the interest of every man in it. If I make any mistakes while I occupy this position, I assure you they will be errors of the head and not of the heart.

Dr. J. M. Hull, of Augusta, contributed a paper entitled "Foreign Bodies in the Larynx."

On motion, the Association adjourned until 2:30 P. M.

THIRD DAY—AFTERNOON SESSION.

The Association reassembled at 2:30 P. M., and was called to order by the President.

The first business in order was the selection of a place for the next meeting.

Dr. Elliott made an eloquent speech in favor of Savannah, and his remarks being subsequently put in the form of a motion were seconded and unanimously carried.

Dr. Walter A. Crow, of Atlanta, offered the following, which was adopted:

Resolved, That the officers of the Association be elected by ballot without a nomination at 11 o'clock on the morning of the last day of the Association, and if there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on until an election is had, the other names being dropped.

Dr. Avary offered the following resolution, which was seconded by Dr. Roy, and carried:

Resolved, That the Medical Association of Georgia indorses fully the Atlanta (Ga.) Cotton States and International Exposition, as an enterprise of national utility and progress.

Resolved, That while in the object of bringing the South in direct touch with foreign countries, it will expand our trade, multiply our industries, support our railroads and benefit our agricultural and material interests, its feature of a great exhibit of medical appliances and their modern improvements, and the gathering together of the world's medical scientists in this Exposition, will benefit the medical profession, not only of Georgia, but of the South and the entire country.

Resolved, That the policy of national help to such benefactions having been adopted, we are united in asking Congress to make a generous appropriation to this most important public spirited project.

Dr. H. E. Stafford, of New York, called attention to a law which had been passed by the different States to the effect that all parents, guardians, or nurses who have infants in charge, and who notice the slightest inflammation of the eyes or discharge therefrom, shall be compelled, under penalty of a fine, to report the same to the nearest physician or nearest health officer.

Dr. Roy stated that there was no legislation of this kind in the State of Georgia. He thought the time was not far distant when physicians would take into consideration the condition of the new born with reference to the prevalence of ophthalmia neonatorum and place it upon a basis where physicians could get such cases, and thus prevent the amount of blindness which is yearly being added to the asylums.

Dr. W. A. Love moved that a committee of three be appointed by the President to present this matter before the legislature.

Seconded.

Dr. L. B. Grandy moved, as an amendment, that the matter be referred to the present Committee on Legislation, which was seconded and carried.

Dr. Walter A. Crow, of Atlanta, read a paper entitled "Cancer of the Uterus, the Remote Result of Operative Interference."

Dr. H. E. Stafford, of New York City, followed with a paper entitled "The Extraction of Clear Lenses for Myopia."

The President tendered the thanks of the Association to Dr. Stafford for his excellent paper.

Dr. R. R. Kime, of Atlanta, contributed a paper entitled "Responsibility and Relation of the General Practitioner to Gynecology, Preventive and Non-Preventive."

Discussed by Drs. Love, Douglas, A. W. Griggs, Avary, Gilmer, Kime.

Dr. J. G. Earnest, of Atlanta, read a paper entitled "A Case of Extra-Uterine Pregnancy," which was discussed by Drs. Douglas, Avary, Kime and Earnest.

Dr. J. C. Avary, of Atlanta, followed with a paper on "The Tampon in Gynecology" which was discussed by Drs. Gilmer, Crow, and, in closing, by the essayist.

Dr. Bernard Wolff, of Atlanta, read a paper entitled "A Plea for the Closer Recognition of Dermatology as a Specialty."

The following papers were read by title:

Castration for Rape. By Dr. J. G. Hopkins, Thomasville.

A Case of Gonorrhea in a Female. By Dr. R. J. Nunn, Savannah.

The Treatment of Typhoid Fever. By Dr. M. A. Clark, Barnesville.

The Time for Operation in Strangulated Hernia. By Dr. W. P. Nicolson, Atlanta.

Rare Cases in Obstetrics. By Dr. W. F. Holt, Macon.

Conjunctival Cysts in Each Eye. By Dr. W. L. Bullard, Columbus.

Treatment of Traumatic Epilepsy, with Report of Cases. By Dr. J. I. Darby, Americus.

Endometritis, Cervical and Corporeal, Pathology, Symptomatology and Treatment. By Dr. W. W. Stewart, Columbus.

Nasal Sprays—What to use. By Dr. George Brown.

Dr. Wm. O'Daniel offered the following resolution, which was unanimously adopted :

Resolved, That this Association return thanks to the physicians and citizens of the city of Atlanta for their unlimited hospitalities; also to the press of Atlanta for their kind and impartial reports; and to the hotels and railroads for their courtesy and kindness in granting reduced rates.

The following were appointed as delegates to the American Medical Association:

R. M. Harbin,	E. C. Goodrich,	W. S. Kendrick,
W. W. Brown,	W. S. Goldsmith,	W. O'Daniel,
S. C. Benedict,	J. G. Hopkins,	H. Buford,
G. W. Mulligan,	H. B. McMaster,	T. R. Garlington,
T. J. Charlton,	W. F. Holt,	Eugene Foster,
T. R. Wright,	F. W. McRae,	J. W. Bailey,
J. H. McDuffin,	H. W. Terrell,	W. H. Elliott,
J. McF. Gaston,	A. G. Hobbs,	B. R. Doster,
Willis F. Westmoreland,		D. H. Howell.

Dr. J. G. Earnest moved that the thanks of the Association be tendered to the President for the efficient manner in which he had discharged the duties of his office.

Carried.

President Elliott returned thanks to the members of the Association for their courtesy and for the kind manner in which he had been treated by every member during the sessions of the Association, as well as for their cordial support.

The President then appointed Drs. O'Daniel and Taylor to escort the newly-elected President to the chair.

President Elliott, in turning over the office to his successor, said: "I have only to say in surrendering the chair to him, that I feel honored in turning it over to one who bears the honored name of Willis F. Westmoreland."

Dr. Westmoreland said: "All I can say in return is that I hope in my efforts I shall make as good a presiding officer as our retiring President."

The following names were submitted to the Board of Censors as applicants for membership and were declared duly elected during the various sessions of the Association:

C. Hamilton,	J. A. Childs,	R. M. Harbin,
Don B. Bosworth,	R. C. Eve,	Newt. Anderson,
Bernard Wolff,	D. E. McMaster,	L. E. Roper,
J. C. Patterson,	J. W. Hood,	J. T. Manderville,
A. R. Danforth,	H. P. Cooper,	J. R. Simpson,
J. M. Thomas,	K. R. Collins,	J. S. Horsley,
L. A. Felder,	C. B. Petrie,	P. M. Butler,
W. L. Champion,	T. M. Greenwood,	W. T. Spears,
C. S. Webb,	W. F. May,	P. M. Rhodes,
A. T. Calhoun,	J. M. Glass,	J. A. Bryan,
George Brown,	S. T. Bedingfield,	J. J. Poore,
J. L. Lovvoon,	W. J. Blalock,	M. S. Brown,
B. W. Bizzell,	W. F. Golden,	D. B. Nisbet,
W. L. Dean,	J. L. Campbell,	G. M. Stovall,
W. D. Coursey,	R. A. Hammond,	E. C. Davis,
J. S. Tankersley,	W. J. Cox,	L. Amster,
J. D. Martin,	M. A. Purse,	G. L. Alexander,
J. L. Selman,	W. H. Poole,	D. C. Cickey,
J. R. Sewell,	J. K. Corss,	W. B. Prather,
J. McF. Gaston, Jr.,	J. C. Johnson,	H. L. Gill,
V. H. Taliaferro,	C. D. Smith,	G. F. Payne.

The President then announced the following committees for the ensuing year.

Committee on Publication.—Dan H. Howell, Chairman, H. McHatton, E. H. Richardson, Ross Cox, M. B. Hutchins, A. W. Calhoun.

Orator.—J. C. Olmsted, Atlanta.

Committee on Necrology.—W. A. Love, Chairman, M. L. Currie, H. Perdue, M. P. Deadwyler, C. C. Hart.

Committee on Prize Essay.—R. J. Nunn, Chairman, M. A. Baldwin, J. W. Hallum.

Committee on Program.—Louis H. Jones, Chairman, T. D. McKown, L. G. Hardman, R. D. McLoed, J. A. Dunwoody, J. W. Bailey.

Committee on Correspondence for New Members.—D. H. Howell, Chairman, J. G. Hopkins, B. R. Doster, Geo. J. Grimes.

Committee of Arrangement.—Montague L. Boyd, Chairman, W. H. Elliott, Geo. H. Stone, A. B. Simmons, W. W. Owens.

There being no further business, the Association, on motion, adjourned to meet in Savannah on the third Wednesday in April, 1895.

WILLIS F. WESTMORELAND, M.D.,
President.

DAN. H. HOWELL, M.D.,
Secretary.

THE DUTY OF THE PHYSICIAN TO HIS PATIENT.

PRESIDENT'S ANNUAL ADDRESS.

BY W. H. ELLIOTT, M.D., SAVANNAH.

Gentlemen of the Medical Association of Georgia:

Much of what I shall say is of record and is, or should be, known to you. Yet I think it will be well, not only to refresh your memories by a recital of the law, but to ask your attention to some practical applications of its precepts.

First, then, for the letter of the law. What are the obligations it implies upon the physician? I read the following from the American and English Encyclopedia of Law:

"Physicians and surgeons, by holding themselves out to the world as such, impliedly contract that they possess the reasonable and ordinary qualifications of their profession, and are under a duty to exercise reasonable and ordinary care, skill and diligence: but that is the extent of their liability."

In the words of Justice Tyndall, "Whoever undertakes to practice any art or profession assumes an obligation both civil and professional, which, though implied, has all the force and validity of a formal contract."

"The reasonable and ordinary care, skill and diligence that the law requires of physicians and surgeons is such as physicians in the same general neighborhood, in the same general line of practice, ordinarily have and exercise in like cases."

"A different rule has been held in Pennsylvania. In two cases the court held that such skill was required as thoroughly educated surgeons ordinarily employ, but the weight of authority is as above stated."

"The true measure is that ordinarily exercised in the profession by the members thereof as a body; that is, the *average* of the reasonable skill and diligence ordinarily exercised by the profession as a whole; not that exercised by the *thoroughly educated;* nor yet that exercised by the *moderately educated,* nor merely of the well educated, but the *average* of the thorough, the well, and the moderate."

"The locality in which a physician or surgeon practices is to be taken into account. One who lives in a large city and enjoys the opportunities of metropolitan schools and hospitals is justly held to a higher measure of accountability than one who could not have such advantages."

But, "Physicians and surgeons should keep abreast of the times and make use of the latest and most improved methods and appliances, having regard to the locality and general practice of the profession, and it is for the jury to decide from the particular circumstances of each case whether the physician or surgeon has fulfilled his duty in this respect."

"A departure from approved methods of practice, resulting in injury to the patient, will render the practitioner liable, however honest the intention and expectation of benefit to the patient may be."

"If a physician or surgeon be sent for to attend a patient the effect of his responding to the call, in the absence of any special agreement, will be an engagement to attend to the case as long as it requires attention, unless he gives notice of his intention to discontinue his visits, or is dismissed by the patient; and he is bound to exercise a reasonable and ordinary care and skill in determining when

his attendance should cease." He is also bound, in dismissing a case, to give his patient such advice in regard to his mode of life and the proper care of himself as the circumstances of the case may require.

"Physcians and surgeons are bound to give their patient the benefit of their best judgment, but they are not liable for a mere error of judgment. An error of judgment may be so gross, however, as to be inconsistent with reasonable care, skill and diligence."

"There is no implied warranty on the part of the physician that he will effect a cure; and he can be held as a guarantor of success only in virtue of an express agreement. The mere failure to effect a cure raises no presumption of a want of proper care, skill and diligence."

"If a physician or surgeon is not competent, or feels that he is not competent, to treat a case, it is his duty to recommend the employment of another, but if he is competent and so considers himself, and is in doubt concerning the case, he should use his best judgment as to consultation with other physicians or surgeons. The refusal to accept the assistance of another in the treatment of a case imposes no higher duty upon a physician or a surgeon."

"The fact that a physician or surgeon renders services gratuitously does not affect his duty to exercise reasonable and ordinary care, skill and diligence."

"If the fault or negligence of a patient or his attendant contributes to the patient's injury, he cannot recover for malpractice by the physician or surgeon, and this is true in a case where the natural temperament or physical weakness of the patient are the contributing causes of injury."

"Where the injury attributable to the fault of the patient can be separated from that of the physician, the former may recover for so much of the injury as is due to the fault of the latter."

"When a patient, relying on his own judgment, gives di-

rections as to his treatment, he cannot claim damages of the physician for the consequences."

"The burden of proof to show contributory negligence is upon the defendant in an action for malpractice."

These are the principles which the law lays down for the medical profession in general: Competency first, then diligence.

For the surgeon, there are some obligations peculiar to his branch of the profession.* The responsibility for the success of every operation which he performs is individual. He may decline to undertake any case, but, having accepted the trust, he alone is responsible for the results of treatment. Neither the attending physician nor the consulting surgeon assumes any portion of the obligation. Not only during the operation, but throughout the entire treatment, the conduct of the surgeon must be characterized by fidelity to the patient, and a uniform and consistent application of skill in the management of the case.

Failure at any time to meet the ordinary indications in the case vitiates the entire attendance, for the obligation is continuous to the termination.

In view of these facts it is important that the surgeon should make every case which he undertakes peculiarly his own. He should forecast every possible source of failure and be prepared for every possible emergency; for he is most ready to take responsibilities and bear them easily, who can best estimate what are the risks and difficulties which he is to incur.

This individual responsibility is not recognized by the Code of Ethics, but to show that the mind of the profession is disposed to admit the correctness of this view of the question, I quote from the report of the committee on amending the Code, made at the last meeting of the American Medical Association:

* Stephen Smith, *Operative Surgery.*

"We recommend the more accurate definition of the term 'consultation,' as we find good reason to believe that serious estrangement has arisen between physicians because of the different ideas they attached to this term. The Code of Ethics says, 'that in a consultation the responsibility must be equally divided between the medical attendants; they must equally share the credit as well as the blame of failure.'

"With this statement before us, it is clear that there can be no consultation when one physician meets another for the purpose of obtaining from him an account of the case or pertinent facts of family history, or a record of the past management of the case, in order that he may more intelligently assume the entire responsibility of its future conduct."

From this data it is clear that usually the specialist does not consult with the practitioner. He simply obtains all the facts the general practitioner possesses preparatory to assuming full control of the case.

The principles of aseptic and antiseptic surgery, having been accepted by the profession, impose new obligations upon the surgeon. If he fails to apply these principles he can justly be held responsible for failure.

As all the ordinary operations are thus rendered more safe, the prognosis in all cases requiring operative procedure is more favorable, and the field of operative surgery has been much enlarged. Many operations can now be undertaken which before were unjustifiable. The surgeon is bound to give the patient the benefit of all the advantages which have been gained by this advance in the science of surgery.

Thus speaks justice; cold and hard perhaps, but drawing the line of the equities straightly between the physician and the patient.

Now turn we to the Code of Medical Ethics of the American Medical Association. This Code is formally adopted by the Constitution of the Medical Association of Georgia,

and the fact of our membership makes it binding upon us. It is an obligation voluntarily assumed, and, therefore, we are bound by the highest dictates of honor to faithfully observe its injunctions.

But what says the Code of the physician's duty to his patients?

"A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. *These obligations are the more deep and enduring, because there is no tribunal, other than his own conscience, to adjudge penalties for carelessness or neglect.* Physicians should, therefore, minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health and lives of those committed to their charge depend on their skill, attention and fidelity. They should study, also, in their deportment, so to unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence.

"Every case committed to the charge of a physician should be treated with attention, steadiness and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed, and the familiar and confidential intercourse to which physicians are admitted in their professional visits, should be used with discretion, and the most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional service; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character, observed during professional attendance, should ever be divulged by the physician, except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great

that professional men have, under certain circumstances been protected in their observance of secrecy by courts of justice."

"Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, to meet promptly every change which may oocur, and also tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives."

"A physician should not be forward to make gloomy prognostications, because they savor of empiricism by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really occurs; and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy, for the physician should be the minister of hope and comfort to the sick; that by such cordials to the drooping spirit he may smooth the bed of death, revive expiring life and counteract the depressing influence of those maladies which often disturb the tranquillity of the most resigned in their last moments. The life of a sick person can be shortened not only by the acts but also by the words or the manner of a physician. It is, therefore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits."

"A physician ought not to abandon a patient because the case is deemed incurable, for his attendance may continue to be highly useful to the patient and comforting to the relatives around him, even in the last period of a fatal

malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance under such circumstances would be sacrificing to fanciful delicacy and mistaken liberality that moral duty which is independent of and far superior to all pecuniary considerations."

"Consultation should be promoted in difficult or protracted cases, as they give rise to confidence, energy and more enlarged views in practice."

"The opportunity which a physician not infrequently enjoys of promoting and strengthening the good resolutions of his patients, suffering under the consequences of vicious conduct, ought never to be neglected. His counsels, or even his remonstrances, will give satisfaction, not offence, if they be proffered with politeness and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed."

"There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his profession and to his patients. It is due to the latter, as without it he cannot command their respect and confidence, and to both, because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding, and on emergencies—for which no professional man should be unprepared—a steady hand, an acute eye and an unclouded head may be essential to the well-being, and even to the life, of a fellow-creature."

"Medicine is a liberal profession and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice."

"A physician, in his intercourse with a patient under

the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made, no disingenuous hints given relatives as to the nature and treatment of his disorder, nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed."

"The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit."

The spirit of the Code is tersely put in the Hippocratic oath. By this the practitioner of ancient times bound himself to enter his patient's house for the sole purpose of doing him good, and so to conduct himself as to avoid the very appearance of evil.

You have now heard the law of the State and the professional Code of Honor. Is there a higher law? Yes. "What is written in the law: how readest thou?"

"Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind."

This is the first and greatest commandment, and the second is like unto it: "Thou shalt love thy neighbor as thyself."

This is the prelude to the parable of the good Samaritan who not only exemplified the law of love, but whose methods as a practitioner were nearly two thousand years in advance of the age.

The higher law then is the law of love, love for all mankind. If this spirit truly fills our hearts we will do our duty easily and naturally.

I will now ask your attention to some practical applications of the law, and I quote freely from the poet-physician, Dr. Oliver Wendell Holmes.*

I warn you against all ambitious aspirations outside of the practice of medicine. It is often a disadvantage to a physician to be known for any accomplishment outside his profession. Medicine is the most difficult of sciences and the most laborious of arts. It will take all your powers of body and mind if you are faithful to it. Do not dabble in the muddy sewer of politics nor linger by the enchanted streams of literature, nor dig in the far off fields for the hidden waters of alien sciences.

The great practitioners are generally those who concentrate all their powers on their business. If there are here and there brilliant exceptions, it is only in virtue of extraordinary gifts and industry, to which few are equal.

Your patient has a right to the cream of your life, and not merely to the thin milk that is left after science has skimmed it off. *The best a physician can give is none too good for his patient.* The Code well says that a doctor owes it to his patient to be temperate. Intemperance in a physician partakes of the guilt of homicide, for the muddled brain may easily make a fatal blunder in a prescription, and an unsteady hand transfix an artery in an operation.

There is a personal habit of less gravity than the one I have mentioned, which it is well to guard against. I mean the use of tobacco. We better than all men know how nicotine can, through its poisonous action on the nervous system, impair the sight, disorder the circulation and unsteady the hand. Besides, the sick are sensitive and nervous, and the fumes of tobacco may be disagreeable to many of them. The physician cannot be too particular to be nice in his personal habits, and if his presence is not

* Medical Essays.

suggestive of purity and cleanliness, his visits may be unwelcome. "Cleanliness is next to godliness;" and the want of it is sin.

Need I remind you of the duty of punctuality, and of the worry and distress to patients and their friends which the want of it occasions. Take pains to call on your patient as nearly as possible at the hour you have reason to think you are expected. It is a good rule. If you call too early my lady's hair may not be so smooth as could be wished, and if you keep her waiting too long her hair may be smooth but her temper otherwise.

It has been my habit always to get the weather gauge of my patient. I mean to place him so that the light falls on his face and not on mine. It is a kind of ocular duel that is about to take place between you; you are going to look through his features into his pulmonary and hepatic and other internal machinery, and he is going to look into yours quite as sharply to see what you think about his probabilities for time and eternity.

No matter how hard he stares at your countenance, he should never be able to read his fate in it. It should be cheerful as long as there is hope, and serene in its gravity when nothing is left but resignation. The face of a physician, like that of a diplomatist, should be impenetrable. Nature is a benevolent old hypocrite. She cheats the sick and the dying with illusions, better than any anodynes. If there are cogent reasons why a patient should be undeceived, do it deliberately and advisedly; but do not betray your apprehensions through your tell-tale features.

Your patient has no more right to all the truth you know than he has to the medicines in your saddle-bags, if you carry that kind of cartridge-box for the ammunition that slays disease. He should get only so much as is good for him. It is a terrible thing to take away hope from a fellow-creature. Be very careful what names you let fall be-

fore your patient. He knows what it means when you tell him he has tubercles or Bright's disease, and, if he hears the word carcinoma, he will certainly look it out in a medical dictionary, if he does not interpret its dread significance on the instant.

I advise you then, as far as possible, keep your doubts to yourself, and give the patient the benefit of your decision. Firmness, gentle firmness, is absolutely necessary in this and certain other relations.

If you cannot acquire and keep the confidence of your patient, it is time for you to give place to some other practitioner who can. If you are wise and diligent you can establish relations which they will find it hard to break. But if they wish to employ another person, who, as they think, knows more than you do, do not take it as a personal wrong. A patient believes another man can restore him to health, which, as he thinks, you have not the skill to do. No matter whether the patient is right or wrong, it is a great impertinence to think you have any property in him. Your estimate of your own ability is not the question; it is what the patient thinks of it. Remember, too, not to feel aggrieved against the brother physician who succeeds you in the case. A patient has a right to change his physician as often as he pleases, he is only bound to do it in the right way; that is, to discharge the one before he engages the other.

Be careful in regard to the use of drugs. I hold that it is a good rule not to prescribe any drug unless you can give a reason for it. If your patient *will* have a prescription when he does not need it, indulge his fancy with a placebo. A doctor who relies altogether on drugs is not the master but the slave of his profession.

Remember that in many cases medication is entirely secondary, and your patient's health may depend on the diet, regimen, temperance and mode of life, or change of

climate; in short on his environments and his relation thereto. You will, if you are wise, look into these matters which prescriptions cannot cover.

Make it a rule to look carefully over every prescription before it leaves your hands. This may save you from some day being the author of a homicidal document, which, if not intercepted by a druggist more careful than you, might cause you lasting remorse and perhaps loss of reputation.

I beg now to call your attention to a few points in which I think the profession sometimes fails to come up to the full measure of its duty to the patient.

I have often noted a want of due care in the administration of general anesthetics. The administrator should never lose site of the fact, that the life of the patient is for the time being entirely in his hands, and is dependent for minutes or hours upon the skill and attention which he gives to the performance of his duties. If he is faithful he will watch the patient, and not the operation. He will not beguile the time, as I have often noticed, with interesting stories; nor allow others to do so. He will at every moment be aware of the exact condition of his patient, especially his respiration. His conduct should be such that the operator can devote his whole attention to the operation in hand and have his mind free from anxiety in regard to other matters.

I believe that the majority of the deaths under anesthesia are due to carelessness and lack of that unremitting attention which is the first and last duty of the administrator. He must "watch as if on that alone hung the issue of the hour."

I think some members of the profession hold mistaken views in regard to the administration of chloroform in cases of labor. They either decline, or give it so sparingly that while keeping the word of promise to the ear, they break it to the hope of the sufferer. I think chloroform

should be used in all labor cases where the degree of suffering warrants it.

To what extent it should be given is an important matter, and will depend upon the circumstances of the case. In ordinary cases it should be given in quantity sufficient only to deaden pain, and when this point is reached the patient will be unable to ask for more. Given to this extent it does not retard labor as many suppose, but accelerates it; the removal of the pain calling into full play the voluntary muscles. In cases so rapid that laceration is imminent, chloroform can be given to the extent of controlling the involuntary muscles also; thus reducing the pains within the limit of safety.

My obstetric practice has been singularly free from accidents and complications; such as protracted labor, retained placenta, post-partum hemorrhage and fevers. I cannot attribute this to any other cause than to the regular use of chloroform, on the principles above indicated. So far as the dangers are concerned I have seen none, and I have heard that Sir James Simpson gave chloroform in twelve thousand cases of labor without an accident.

I must warn you against the indiscriminate use of bandages and surgeon's plaster in the treatment of injuries. I have seen these articles so tightly applied as not only to cause great suffering, but sometimes even to endanger a limb. The edges of a wound can seldom be properly approximated by plaster, and a limb should not be bandaged simply because it is broken. It is seldom necessary or safe to apply a bandage directly to the skin, and it should never be done without a reason. The proper function of a bandage is to retain splints and other apparatus in position, and it should be applied no tighter than is necessary to effect this purpose. If the surgeon bears this in mind he will not only contribute much to the comfort of his patient, but perhaps will avoid the risk of inflicting serious injury.

Now last, but not least, the physician's duty to his patient requires that he shall keep him *free from pain*, as far as is consistent with the proper treatment of the case. So far as I can judge, many members of the profession, even some of its brightest exemplars, are strangely wanting in their duty in this regard. I am satisfied that this is due more to an unwarranted dread of the evil consequences of narcotics and anodynes, than to a want of feeling. The error has sometimes been committed through a desire, laudable enough, to hasten through a duty difficult to a surgeon and painful to a patient. The relief of suffering requires time and trouble, and a minor operation is often hurried through, at the cost of the patient's feelings. I may remark that when a physician happens to be the patient I have never noticed that there was any lack of preparation for the prevention of pain.

But it may be asked by what right I speak thus to experts, who are themselves qualified to judge what is best for their own cases. I can only say that this question has interested me especially from the beginning of my professional life, and my official position has made it my duty to supervise the work of my professional brethren. Moreover, I feel that if I can convince any of you of the correctness of the views I so strongly hold, I will have done something towards lessening human suffering.

I am satisfied from many trials, and repeated observations, that injured persons rally more promptly from a shock and recover more quickly from their injuries, if they are kept as free as possible from pain. In most cases anodynes and narcotics are indicated for a short time only; the shorter, if they are promptly and boldly used up to the proper limit. This is marked by the relief of pain. If the limit is exceeded, the evil effects of the drug will be shown in disorders of the digestion, and locking up the

secretions. The danger of narcotism can be avoided by the caution, *never to wake a patient for the administration of a dose.*

Whenever it is practicable, I prefer the hypodermic method of administration because it is more efficient, less injurious, and, above all, is in the control of the physician.

I wish to be distinctly understood as maintaining that the prompt and judicious use of opiates not only relieves suffering, but by calming the mind, equalizing the circulation, and making the patient indifferent to his troubles, has a directly curative power. This is more true in acute than in chronic cases; but sometimes even in these, the effect in breaking up a vicious chain of symptoms is marvelous. Yet I do not recommend the continued use of narcotics in chronic cases unless they are hopeless or malignant. I have for years used opiates freely in my practice, but I have never known a patient to acquire the habit thereform.

Such, then, my professional brethren, is the measure of our responsibility. The standard is high, but this should only increase our zeal to attain it. If we regard our patients as men and brethren, we will, without the restraint of law and code, follow the golden rule and do unto others as we would have them do unto us. If we are faithful to this, what is our reward? Not only "the promise of the life that now is," but when the Son of Man, who was our brother here on earth, shall be the KING upon the throne of his glory, he will say, "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto ME."

SUGGESTION AND ITS THERAPEUTIC USES.

ORATOR'S ADDRESS BEFORE GEORGIA MEDICAL ASSOCIATION, ATLANTA GA., APRIL 9, 1894.

BY SAMUEL C. BENEDICT, M.D., ATHENS.

Mr. President and Gentlemen of this Convention:

The duty devolving upon me of providing something for your annual oration was one which, at the first although inclined to shirk, I had not the bravery to, and yet the task of selection has not been an easy one.

As many of you well know, I am no orator, and I can but imperfectly deliver what I have to say to an audience, even when that audience is from among mine own profession. Bear with me, therefore, to the utmost of your patience, and if the subject which I have chosen as my text should prove to be poorly handled and tediously presented, remember that my ability for this sort of work has never been recognized by any one, not even by myself, as the suggestion of a possibility.

The subject of physiological psychology has of late years interested me much; the study of the localization of cerebral functions is of interest to us all, but until of late years the line of thought and of study has been directed to the motor and sensory functions, and not to the higher ones of memory, reason and the emotions. Recently, however, much thought and research have been given to the subject of the possibilities of the mind under the influence of genuine hypnosis. These researches have been made by con-

scientious and intelligent men, hard workers in our profes sion—men of undoubted worth and ability, some of whom have written treatises embodying their experiments and views.

A few years ago there was presented to this body a paper on the "Duality of the Mind," and which embodied the views of a certain school. This paper offered a topic for consideration which could not be discussed, and was not, because those of the Association present had not at that time given the subject sufficient thought. Since then a great deal has been done in this field, and the mental function of the brain, when a portion of it has been inhibited by hypnotic influence, has been studied in a scientific manner. Opportunities for fraud and deception, for collusion for pecuniary gain, of course, have large scope, but in the large majority of cases recently experimented upon, *for the knowledge to be obtained*, and *not* for money, it has been shown conclusively that there is opening up before us a field of research into the emotional and intellectual portion of man's brain which, in point of interest to us as students, and possibly in the future as practitioners, will take a front rank. It is not my intention to enter into an abstract discussion of the various conditions of hypnotism, mesmerism, clairvoyance, clairaudience, telepathy, or any of the kindred phenomena, but to take the results upon persons under the influences producing these phenomena, and to open up, if possible, with my limited observation and study of such conditions, a line of thought for some of you.

Within the past year a theory as to a law which governs psychic phenomena has appeared, the basis of the argument being the duality of the mind, not *anatomically* but functionally, although even this latter term is not exactly the one to convey the idea as to the line of argument. No theory up to this time had ever been advanced which embraced all psychological phenomena, some explaining appa-

rently individual phenomena, but failing when confronted with another class. The schools of Mesmer and of Nancy both have a theory to explain the various phenomena, and the causes for the evolving of such phenomena, but neither can cover the whole field of clairvoyance, thought-transference or mind-reading, and yet the ablest scientists of the Royal Academy of France, after six years of patient investigation, reported that it *had* demonstrated that such powers do exist in the human mind. There is a class of phenomena about which a great variety of opinion prevails, and a great deal of skepticism,—that of mental therapeutics. Take, for instance, the invocations of the gods by Egyptian priests, by which most remarkable "cures" were made, or the magic formulæ of the disciples of Esculapius, or the healing power over certain nervous diseases by the modern systems of Christian science, faith and mind cures. Marvelous results are constantly being obtained through these agencies. There has until recently been no explanation offered as to how these cures are accomplished; that they *are* is not denied by many of our profession who have witnessed them. We who have never seen them are skeptical and inclined to scoff at such possibilities, attributing them to deception, or to impressions made upon nervous systems, hyperesthetic and hysterical. Do not we see constantly in our practice evidences of our influence over some of our patients by the simple power we have in making them *believe* in us? Have we not often heard it said by a patient that "All I need is to see my doctor and I get well"? "Confidence in the doctor is half the cure" is a trite saying.

Professor Bernheim's work on "Suggestive Therapeutics" is full of evidences that under certain conditions the mind of man is under absolute control by suggestion, and that it is *this suggestion* which has the power of producing the marvelous cures recorded under the workings of the various systems. Hypnotism is the state in which the person is

placed when suggestion is most powerful, but in the workings of other schools cures are made without the hypnotic influence. "Faith" is a term frequently used to name the necessary mental condition for cures, and this is the term used in the Bible to express the requisite for the healings there recorded.

By suggestion is meant simply an *impression* made from without through one of the five senses upon the cells of the cerebral cortex; it is a sensory impression by which either motor phenomena *only* are developed, or mental action, such as a revival of memory. In some instances a language used in childhood and long since forgotten has been brought again into speech as clearly and perfectly as though never lost. *Auto-suggestion* arises without external impressions, and is typical in dreams and delirium. Now, as explanatory of many such phenomena, a working hypothesis has been brought out by Hudson, which explains better than any previous theory the cause of such phenomena. His reasoning is that man has two minds, one of which he calls the "objective" and one the "subjective mind"; and further, that this subjective mind is constantly amenable to control by suggestion and is incapable of inductive reasoning.

The idea of a dual mental organization is not a new one, the truth of the proposition being shown in the use by the Greek philosophers of the expression, "body, soul and spirit," and indeed the same belief is shown by all ancient philosophers, whether Christian or pagan. In recent years this doctrine is beginning to be more clearly defined, and a late work by Du Prel, based on experiments in Milan, demonstrates beyond question this dual theory by his reference to the phenomena of dreams.

The line of demarcation between the two minds has never been clearly defined until within the past year, when Hudson brings forth his theory of the objective and subjective minds.

The difference between the two minds seems to be this: the *objective* mind is that portion which has the use of the five senses to take cognizance of the objective world; its impressions are received by itself and conveyed to the subjective function. This objective mind is the outgrowth of man's necessities and is his guide in maintaining his mundane existence. Its highest function is that of reasoning, in drawing conclusion inductively. The subjective mind, on the other hand, is the seat of the emotions and the storehouse of the memory, and *its* functions are under the control of the senses, or objective function. When these senses are inhibited, as by hypnosis or by sleep, the highest functions of the subjective mind are performed and most wonderful feats are witnessed. That these feats are *not* fraudulent is abundantly proven by the statements of such men as Charcot, Heidenham, Bernheim and others, as well as by the London Society for Psychological Research. As remarkable as the statement may appear, the subjective mind reads, without the organs of vision, the contents of sealed envelopes and of closed books. It appears to be that the real difference between the two minds is that the "objective" is merely the function of the physical brain, while the "subjective" is a distinct entity, possessing independent functions, capable of existing independently of the body, or in other words it is the *soul of man.* It is hard for us to reason to ourselves that such a proposition is at all tenable, especially so if no study or thought has been directed to this line of argument. At first it seems preposterous to attempt to maintain such an hypothesis, but the more you will look into this subject the more fascinating and plausible will it become. As a means to the study of mental phenomena, it is far ahead of all former theories in its possibilities for our enlightenment, and the assumption that there *is* a dual mental organization furnishes us with a foundation for our future work in dealing with mankind.

Unconsciously to ourselves we are always causing mental action in others by our suggestions, and we ourselves, by suggestions received from without, "live and move and have our being," while our auto-suggestions furnish us our dreams. In the insane mind, where the objective mind has lost its control over the subjective, auto-suggestion brings into play all sorts of visions and fancies, even to the belief that the person is some other than himself, or that he is being pursued by another whose intent is to inflict personal harm. Hallucinations, delusions and illusions are the outcome of subjective function with a lost objective control.

Whether or not the distinction between these two qualities of what we call our mind is a well defined one, it is impossible to affirm, but the operations of the mind under the influence of hypnotism have led even unbelievers to feel that there are reasons for such a demarcation. I think it is necessary to speak farther of some of these differences as observed in order to lead up connectedly to the effects of suggestion upon the mental organization. One of the most important distinctions claimed pertains to the reasoning powers, the objective mind seeming to be able to reason inductively, deductively and analytically, while the subjective mind, when not inhibited by the objective, is incapable of any but *de*ductive reasoning. A premise, no matter how false or absurd, is, when suggested, assumed as correct, and deductions of marvelous accuracy and logic evolved. Every conclusion will be so clearly and logically deduced from the major premise, and so consistently, that the listener will almost overlook the fact that the premise is assumed. Again, the most striking peculiarity of the subjective entity is its perfect memory. Modern psychology tells us that the memory of impressions made through either of the senses is recorded in the cells of the cortex, belonging to the localized area of that particular sense, and that that impression is *ineffaceable,* never obliterated, except by disease or injury,

which destroys the cells of that particular area. So it is claimed by many students of psychic phenomena that while the objective mind is in perfectly normal function, most of these memory impressions are in oblivion as far as conscious cerebration is concerned; still, whereas, in delirium, trance, hypnosis, or in natural sleep, the objective mind is inhibited, the memory impressions of these cells, no matter how old or unforgotten those impressions, are again accessible to use by the subjective entity. For example, cases are on record where the extinct memory of whole languages has been suddenly restored, or, what is even more remarkable, passages in unknown tongues, learned in childhood but lost as to the then conscious memory, have been accurately recalled and repeated. This memory of the subjective mind seems to be the only kind of memory which is absolute—the ordinary memory, that of the objective mind, being more properly a recollection. A *recollection* is defined as a successful endeavor of the mind to bring into view an idea or an impression, while a *remembrance* is when the idea occurs without this endeavor, or without the external impression of the object.

Our mental development is the result of a continued series of impressions made through one or other of five senses; our cerebral cortex is the sensitive plate of the photographer, and the picture of our developed mental life will be beautiful and perfect, or repulsive and unfinished, according as to what kind of impressions our mental negative has received. An impression made upon any of the senses is a suggestion, and by suggestions we act and live. The action as a result of these suggestions we call reflexes. All secretion, excretion, motion is the result of reflex function, and this phenomena of life, or more exactly the cause of this phenomena, we call the "Vital Force," a term vague and indefinite. A suggestion made to us by the sight of an object, the voice of another or an impression upon the tac-

tile sense, causes us to act or not, according as to whether our reason, the objective mind, approves or disapproves. If the reason disapproves of action upon the suggestion, it is not followed, and the suggestion to the mind that such action is not proper or desirable becomes an *adverse* suggestion, and the action of the subjective mind is inhibited. And yet, let the objective mind of man be in abeyance, as under hypnotism; let the control over the reason be inhibited, and the suggestion is received as proper, and truthful and deductive reasoning follows. This has been interestingly shown by directing the course of the talk in persons who are dreaming. The line of thought in the dream has been followed out and kept up by suggestion from one awake and intelligent answers given, and yet the action of the mind is *below* the threshold of consciousness to the dreamer, for upon awakening he has no remembrance of his dreams of suggestion or of auto-suggestion. The same is true in the hypnotic state, when deductive reasoning from a suggestion can be carried on for a long time without any consciousness on the part of the person hypnotized. The subjective mind is then amenable to control by suggestion.

Now, if the functional activity of our organs is under the control of reflexes upon the cerebral cortex, and suggestion, under favorable circumstances, can exercise control upon this same cortex, why may not suggestion act favorably in the relief of *abnormal* function? It is claimed by hyponists that this can be done, and has been done. Perfect anesthesia to pain has been brought about by hypnosis, and hundreds of persons have had surgical operations performed upon them without pain, just as our chemical anesthetics may suspend the perception of pain by the cortex. Charcot has demonstrated beyond question, that all the symptoms of "railway spine" may be produced by suggestion upon hypnotized subjects. The hypochondriac, by continued introspection, develops a pain or a disease by his

auto-suggestion. It is claimed by Hudson that the functions, conditions and sensations of the body are independent of the objective mind, and are under the absolute control of the subjective, and that under favorable conditions many functional diseases or abnormal sensations have been removed by the suggestion that they do not exist.

It is a well known fact that the *symptoms* of almost any disease can be produced in hypnotic subjects by the power of suggestion; fever, as shown by the thermometer, has been produced, partial and total paralysis, flushed faces and chills, and Professor Bernheim, in his "Suggestive Therapeutics," records the case where he produced a blister upon the back by suggesting that a postage stamp was the blister applied. But as absolutely necessary to the success of any relief by suggestion, the person must have entire and implicit faith in the ability of the operator to do as he claims, for otherwise an *adverse* suggestion is aroused in the objective mind, and then no effect upon the subjective can be produced. Have we not in our own professional experiences found persons, who, having perfect confidence in our ability, were relieved of symptoms of a disease by our statement that none existed? Or, on the other hand, a hypochondriac made the more miserable by the suggestion of a new symptom in his disease? Do not our placeboes act by suggestion? Are not our bread pllls an evidence that the relief is obtained either in due course of nature's reparative process, or by the impression made upon the subjective mind by the suggestion that they are all that is necessary to effect a cure?

As physiological students we understand the control of the organic functions of the body to lie in the cells of the cerebral cortex. We now know that temperature centers, pain centers, and probably trophic centers exist. Stimulation to secretion or excretion is produced by peripheral

irritation through afferent nerve fibers to the cells of spinal ganglia, or the cerebral cells; drugs, acting as peripheral or as central irritants, increase or decrease such functions, while mental impressions, even auto-impressions, produce the same. The thought or auto-suggestion of food, or of a pleasure, often produces the desire for such. If, therefore, cells which receive afferent impulses are also influenced by intracranial sensations, why may not suggestion to these same centers influence them also? It is claimed, and probably justly so, that there resides in man a psychic power over the sensations and functions of the body, and that this power can be evoked by will, under certain conditions other than by hypnosis, to the alleviation of human suffering. There is no doubt in my own mind of the truth of the assertion. I am not now speaking of diseases or their symptoms due to organic parenchymatous changes, but to functional disturbances of the nervous system, and of the result of such disturbances upon organic function. Many examples of healing by suggestion are recorded in both the Old and New Testaments; they are full of such examples.

In modern times marvelous cures are effected through these means, no matter what the *modus operandi* of the particular school may be. The thousands of cures at the famous grotto of *Lourdes* by *faith* in its healing power are unquestioned to-day, and who will deny but that some of the "cures" of our own "Hillsman shaft" are due to suggestion? Medical history records the case of a man with a paralyzed tongue who was made to believe in the power of a certain instrument, unknown to him, to cure his malady. Previous to the use of the instrument a clinical thermometer was placed in his mouth for the purpose of taking his temperature, when he, believing it to be the wonderful instrument, cried out that he could move his tongue freely. The cure of an English lady of a chronic case of a tooth-

bristle in the throat, by the removal of a bristle previously placed in the forceps, is a well known instance of the power of suggestion.

The schools of mind cure and of Christian science furnish examples of cures by suggestion, the methods of obtaining the "faith" necessary to its successful use being different.

In the pursuit of our vocation as physicians we have to deal with a generation of people who have an hereditary belief in the power of medicines to "cure" all diseases. Many of us use medicines as though we, also, shared the same belief, and yet there is no doubt but that the majority of us are skeptical as to this power in remedies, and we use many simply as placeboes. Often is it the case that a patient, believing that his physician has the power by the use of a remedy to cure his disease, will get well by the effect of this suggestion to his subjective mind. Can this proposition be successfully denied?

According to the theory of Hudson all diseases are curable by mental processes, but practically the field is very limited. The boundaries are not well defined, as much depends upon the idiosyncrasies and environment of the patient. The success of the physician is as largely dependent upon his knowledge of these conditions as upon his diagnosis and medical treatment, and the success of the purely mental healer depends largely upon his knowledge of the patient's habits of thought, his beliefs, prejudices and mental environment.

In this short review of the present status of psychological literature I do not dare to hope that I have presented a sufficiently well connected line of thought to give you a clear line of demarcation between the objective and subjective minds. I realize that I am incompetent so to do, but if the suggestion to your minds that such a duality *does* exist will cause you to further look into this very interesting

subject, I shall be satisfied. A few words then, in conclusion, as to the possibilities from the use of suggestion in our every-day professional work.

Assume, if you please, the theory of Hudson of the duality of the functional mind, and by looking over your past experiences with patients see if you do not find a potent factor in your power to impress the mind of a patient that he can be cured of his functional disorder, and *is*, by the suggestion to his confiding mind that what you do will relieve him. And right here the power of the person's own auto-suggestion, his belief, comes into use. The successful workers in the field of Christian science are those who so educate their patients and pupils to help themselves, that their confidence in themselves acts through auto-suggestion upon the subjective mind, so as to keep in normal control the functions. How often in our practice have we heard it said, or known it to occur, in epidemics that the fearless escape the disease. The belief (or auto-suggestion) that they are proof against the contagion proves a sufficient power upon subjective function-control to avoid greater resisting power than is found in the timid and nervous. We assure a patient that this or that symptom will disappear under the use of a certain remedy, and it does so, and yet does that necessarily approve that the remedy by its inherent virtue produces cure? Will not bread pills often cure the sick? Why is it that we so often see the course of a functional disease either entirely relieved or made worse, according as to whether the suggestion to the mind is one of joy or one of worry and sorrow? The functional activity of our organs is certainly under the control of intracranial cells. Grief, worry, care or anxiety will disturb the normal action of these organs, whilst joy, pleasure or desires obtained will relieve in many instances functional disorders. The simple suggestion or assurance to our patient that a particular unpleasant symptom "means nothing" is often all-sufficient

to cause the impression of that symptom to disappear. On the other hand, if a patient has "faith" in our judgment and skill, the statement that a certain intercostal pain means heart, stomach, liver or lung disease will often be all that is necessary for him to develop, as far as he knows them, the actual symptoms of such disease. Such examples in our every-day life could be multiplied *ad infinitum*. Humphreys specifies act by suggestion, or they act not at all. The proposition of Hudson is, therefore, the more readily accepted by the medical man than by the layman, no matter whether we accept his dual theory of the objective and subjective function, or simply call both "the mind."

To repeat once more the proposition is this:

1. The subjective mind exercises complete control over the functions and sensations of the body.

2. The subjective mind is constantly amenable to control by suggestion to the objective mind; and

3. Consequently, the functions and sensations of the body can be controlled by suggestions to the objective mind.

The gist of the above propositions is that by our will power we may control the condition of our organs as to functional activity.

If in the foregoing discussion I have taxed your patience too far by suggesting to you a line of thought which appears unreasonable, unscientific, or absurd, pardon me, gentlemen, if I have no other excuse to offer you than my belief that if you will only look into this interesting subject as I have done, with an unbiased mind and with the desire to gain knowledge of this subject as an honest investigator in this psychic field, you will appreciate my interest in the question and look leniently upon my humble effort to furnish you with food for thought differing from the ordinary menu.

TREATMENT OF PNEUMONIA.

BY W. C. HUMPHRIES, M.D., ACWORTH.

In presenting to the Association this article on the treatment of pneumonia, I intend only to give a brief *résumé* of the line of treatment I have found most successful, and will confine myself mostly to the acute lobar variety.

I live and practice in that portion of the State noted for its salubrious climate, pure water, and its being, as a rule, free from malaria and other morbific emanations with which our friends farther south have to contend.

The majority of cases with which we come in contact assume from the beginning the sthenic or high grade type, and require active or depleting measures. If called to treat the patient in the first stage of the disease, I resort to moderately active catharsis and an agent that will arouse the dormant secretions and assist nature to eliminate from the system the effete products produced by the disease.

For this purpose I find no better remedy than calomel, not only because it meets the indications mentioned above, but also on account of its superior antiphlogistic powers, its defibrinating the blood, its antiseptic properties, etc. I usually prescribe from six to ten grains to an adult in combination with Dover's powders, or some preparation of opium and bismuth subnitrate. I generally compound my own prescriptions, and, as a rule, divide this into three or four powders, and direct that a powder be given every two hours—best in capsules. If my patient cannot swallow the capsule, I mix the powder with a small amount of sugar or

syrup in a teaspoon, to which is added water, a sufficient quantity for dilution. After an interval of a few hours, I direct this to be followed with a brisk saline cathartic, which empties the alimentary canal, and, in the majority of cases, reduces the fever, lessens the pain, mitigates the excessive amount of congestion in the lungs, and adds in many ways to the welfare and comfort of my patient.

This prescription perhaps is a very old one, yet it is surprising to see how potent it is, and in many cases rendering further medication almost unnecessary.

My next effort will be directed to reducing the force and frequency of the heart's action, which, in most cases of this type, is very strong and rapid. The blood-vessels in the inflamed lung are strutted with blood, the lung tissue is turgid and filled with the products of inflammation, causing pain more or less excessive, and dyspnœa in proportion to the amount of lung tissue involved. The rational treatment, it seems to me, would be to reduce the force and frequency of the heart's action. For this purpose I have tried several remedies, such as aconite, gelsemium, the coal-tar derivatives, etc., but none of them have given so great satisfaction or such uniform results in my hands as veratrum viride. I use this oftener than any other heart sedative in this disease, and it seldom ever fails me. I do not give it to such an extent as to produce nausea, but in small and often repeated doses. I find that three minims given every three hours will have as good effect as larger doses, and are not so apt to produce a disturbance of the digestive organs.

With veratrum I combine what I consider one of the sheet-anchors in the treatment of this disease, viz., turpentine in the form of an emulsion. In my opinion there is not a remedy in our pharmacopœia so potent or productive of good results in this or the vast majority of diseases with which we come in contact as turpentine. It being a product of our own State, is plentiful and easily accessible to all,

yet it is surprising to see how reluctantly some physicians use it, and what little importance they attach to it. I use it freely, both internally and externally, and find it especially useful in those conditions where the tongue has a tendency to become dry and red, and the force of the pulse begins to show adynamia. In small doses it prevents gastric and intestinal irritation, assists in keeping the secretions aroused, aids the emunctories of the body, acts as an astringent on the arterioles of the inflamed lung, and soothes the inflamed mucous membrane of the bronchial tubes, assisting nature to throw off the collection of mucus from them.

With veratrum and turpentine I prescribe various expectorant mixtures, such as squills, wild cherry, elixir pinus compositus, usually some preparation of opium, etc., varying them from time to time as the symptoms and progress of the disease demand. If the bowels become constipated a mild purgative should be given occasionally to keep them open, or, what perhaps is better, repeat the powders mentioned above, especially if the tongue is coated and cough is tight. In regard to the use of the coal-tar derivatives which have recently come into fashion, my experience has been rather extensive, and in some cases I prescribe them with marked benefit, while in others with not so much success.

In cases complicated with a violent headache, especially if neuralgic in character, pains in back and extremities, they often act like a charm. In some cases I get a reduction of temperature and free diaphoresis with them; in others I do not.

I consider them splendid adjuvants in the treatment of this disease, and with the various preparations I have tried I have always gained better results from the use of acetanilide.

I will now briefly refer to the external applications.

I have used various forms of liniment containing turpen-

tine, and the one I consider the best is the old-fashioned volatile liniment, composed of equal parts of olive oil, turpentine and aqua ammonia. Other applications, such as mustard, spongiopiline. Hot poultices are very useful and should not be omitted. Of all the external applications I have used so far in the treatment of the sthenic type of this disease, I have found none that gave me so great satisfaction as the application of a large size blister, and I think the sooner it is applied the better it is for our patient. I am aware there is a great diversity of opinion on this subject in the profession, and it has been discussed time and again by the members of this Association, but a recurrence to it will not be amiss, for it is a subject that demands the attention and earnest investigation of every thinking practitioner.

The present status of the practice of medicine is due to the wide experience and investigation of men who have devoted their lives to the profession and spent many years in endeavoring to eliminate the wrong and establish the right. To the collation of the experience of such men our profession owes the rapid progress it has made in the last few years. These are the guide-boards that must point us younger members of the profession to the road that will ultimately lead us to success. Excuse this slight digression, but I find a tendency with some of our younger practitioners to wander off into new theories that have not been sufficiently tried or proven, and exclude the bright gems of thought that have been handed to us from the store-house of ripe experience.

At the meeting of the Association in Columbus, Ga., the subject of blisters was discussed *pro* and *con* with a great deal of fervor, and especially by one whom we all love and revere for his ripe experience and profound medical knowledge. We all know him to be a physician of rare ability, and one on whom we can all rely. During the discussion on this subject he said: "If you wish to do me honor when

I am dead, say to the coming generations and inscribe on my tombstone: 'Dr. Griggs used to blister in pneumonia.' I am willing to stand the test of time on it until Gabriel blows his horn."

In this same discussion our lamented brother, Dr. R. O. Engram, who has since been called to his Father, and whose voice in our councils has been hushed forever, in answer to why he blistered, said: "I blister because it relieves pain, and my experience has been that patients do better with blistering than without it." Several of the older members entered upon this discussion, and all seemed to be united upon one thing: to blister, blister well, and repeat if necessary. I am associated with my uncle, Dr. J. R. Humphries, who has practiced medicine for over thirty years, and his advice has always been to me, to use blisters in all stages of the disease, the earlier the better, and to use them freely.

I refer to these men not only because of their long and varied experience as physicians, but because they are our door neighbors and better understand the diseases we treat than those who practice in a different latitude and are not so familiar with them. My own experience with blisters has been very satisfactory, and I have yet to see a case where I used them and regretted it. Of course they are to be used circumspectly in the very young or old.

In the second stage of the disease the foregoing plan of treatment is generally carried out, making such additions and changes as necessary. I find it sometimes necessary to commence with some preparation of ammonia, such as the carbonate, which I find to be the best, and also to add alcoholic stimulants if the vital forces show a tendency to weaken.

In the third stage, or stage of resolution, the treatment should be supportive, and tonics, reconstituents, etc., should

be given according to circumstances and the demands of the system.

In those cases that assume the low grade or asthenic form of the disease, from the beginning we must be careful not to carry our depleting measures too far, and commence our supportive treatment early in the disease. In these cases blisters should be used circumspectly.

In the treatment of pneumonia, as in all diseases which afflict humanity, the physician should not forget the *vis medicatrix naturæ*, and that over medication in many instances does more harm and retards the patient's recovery longer than none at all. He should ever be on his guard, willing to accept that which his own experience and that of others teach him is right, and reject that which is wrong, remembering that good common sense and sound judgment are the essentials necessary for success.

FLUID EXTRACT JABORANDI AS AN ABORTIVE TREATMENT IN PNEUMONIA.

BY O. H. BUFORD, M.D., CARTERSVILLE.

Pneumonia is a disease quite prevalent in our climate. We consider it one of the most fatal we have to meet. Osler puts the death-rate at one in every four or five. Physicians all recognize three stages in pneumonia. After passing out of the primary stage, we may expect it to run a regular course regardless of treatment. Therefore, what is done in abortive treatment must be done early. I think that in fluid extract of jaborandi we have a drug, that in many cases will force a crisis when given early in the congestive stage. I have used it several years with good effect. Have not been able to give it a thorough test, as people usually wait too long before calling a physician.

Jaborandi, when given in the primary stage, induces free diaphoresis, and the glands are made more active. In this way the lung is enabled to throw off the engorgement. After passing into the secondary stage, it only has the effect to lessen the fever. After giving fluid extract of jaborandi, I follow with quinine, and stimulants if indicated. I give three cases in which I used this treatment.

April 30, 1889, was called to see Mrs. R., a robust lady about thirty-five years old. I found her in the primary stage of pneumonia, having had the chill the night before. Temperature 102½°, pulse 100, dullness over the lower lobe of right lung, crepitant râles, rapid breathing. Pneumonic flush over right cheek, cough with pain. Ordered

fluid extract of jaborandi fifteen drops every two hours till she perspired freely. April 31, temperature normal, pulse 70, lung clear. Patient went on to a good recovery without more trouble, taking quinine grains iii. at six, nine and twelve for two days.

April 8, 1893, Lizzie D., colored, aged thirteen, had chill two hours before; dullness over lower and middle lobes of right lung, flatness over right pleura, some pain and cough. Temperature 105, pulse 130, respiration rapid. Yellow coat over tongue. Ordered calomel and ipecac each grain ss. at five and eight P. M. Jaborandi twelve drops every two hours till she perspired freely. Quinine grains iii. at five, seven and ten next morning. April 9, A. M., temperature 98, pulse 86, lung clear, slight cough, no pain. Continued quinine next day. Did not see patient again. Made a good recovery.

May 1, 1893, A. M., was called to see Miss A. F., aged nineteen. Found her with temperature 104, pulse 130, respiration 35, pain and dullness over middle lobe of right lung, some cough and delirium. Had chill night before. Ordered fluid extract of jaborandi fifteen drops every two hours till she perspired freely, hypodermic of morphia to relieve pain, followed with quinine. At five P. M., temperature 98, pulse 80, lung seemed clear, no pain, mind clear. That night there was a storm with rain; suddenly getting cold, she had another chill. Next morning I found her with high fever and pneumonic symptoms re-established, which ran an irregular course, fever giving way by lysis on seventh or eighth day. I have given jaborandi in other cases, but did not keep a record. I think in feeble patients it would not be well to give jaborandi like other drugs. In some cases we may fail to get the physiological effect; especially is this true with children. With them the glands and nervous system are not fully developed.

ABORTIVE TREATMEMT OF PNEUMONIA.

BY T. M. GREENWOOD, M.D., MINERAL BLUFF.

This paper, for want of a better name, we shall call "Abortive Treatment of Pneumonia."

To the writer it has the merit of originality no matter how it may be viewed by the profession.

Our professor of "practice," whose very name I reverence, never gave us any well-defined method of treatment while we were attending lectures in this city. With regard to this disease, as well as many others of like character, he usually finished them by saying, "Treat them on general principles," an old hackneyed phrase. This method of treatment was all our knowledge of the cause of such diseases would warrant. It is self-evident, from the very nature of the case, that all acute diseases are caused by some specific "materies morbi" acting mechanically on some special organ or tissue, producing symptoms we call disease; or by their effect upon the system in general, produce the local result in these special organs or tissues. They come on suddenly, and with few or no premonitory symptoms. They are generally well defined; therefore they are easily diagnosed, each bearing some resemblance to the other, and invariably having a definite relation to some special organ or organs, the tissues of which are of like character.

As an increase of temperature is a symptom in all acute diseases of this group, as well as in almost all others, and as there are so many things that effect its increase, we cannot take it into consideration in arriving at the cause of the dis-

ease or the treatment necessary. Fever is the term used to designate an anomalous increase of the normal temperature or heat of the body, and invariably requires the same or similar treatment regardless of the cause producing it. In short, there is but one thing to be done, and that is to cool the body sufficiently to enable it to maintain its integrity, no matter what the means of cooling be, provided they are safe and rational. This might be considered at length, but would be a digression from the main object of this paper. I shall add, however, that heat and cold express only different degrees of temperature; that is, they are correlative terms, suggesting the absence of one and the presence of the other. This constitutes the so-called rational treatment, and should be conducted with great caution and determination. A temperature of less than 103° is desired, but unless it rises to or exceeds 105°, it does no special harm, provided the time of its elevation be short, but should its duration be of length the body must be cooled. Our mode of treating pneumonia, after we have fully and thoroughly examined the patient and minutely mapped out the location, is to apply a mustard plaster over the entire portion of the lung affected. We usually make or have them made under our special directions, using the purest brand mixed with water only, letting the plaster remain on the patient for six hours. It may be necessary to repeat the application, but this is not often required unless another portion of the lung becomes involved, when we treat it likewise. There is no relapse in pneumonia.

We next investigate the condition of the bowels, the secretions in general, and, if necessary, give a mercurial, the giving of which is more often required than excepted. If this does not cause a free evacuation of the bowels, we administer Epsom salts or castor oil. We next prepare a solution of salicylate of soda, containing about sixty grains of the soda to an ounce of water, giving one teaspoonful

every two or three hours, owing to the intensity of the pain and the amount of fever. If the fever is very high on first approach, we give the above solution in three equally divided doses every three hours. Of course this will produce tinnitus aurium, and in majority of cases will cause diaphoresis, and may produce nausea and, possibly, emesis. We use this preparation in varying proportions during treatment, the symptoms usually subsiding in twenty-four hours, but they may be traced in a mild form for several days. Expectorants in our hands have done little or no good, generally doing harm, the great objection to this treatment being, when long continued, its rejection by the stomach.

In the outset we denominated this treatment abortive, for in our hands it has been either abortive or curative. A trial of over fifty cases has given varying success without a single death. We give it from first to last, and rely upon it, first as an abortive, and second as a curative. The use of salicylate of soda is general in rhumatism and all kindred affections, and as rheumatism is so common in this section of the country, the physician must necessarily keep it on hand. We, of course, refer to the acute form. This drug seems to have a specific action in this disease. We have noticed the recommending of this drug for the abortion of acute orchitis from any cause, and our experience has proved this to be worthy of trial. Its happy results in the above led us to give it a thorough trial in pneumonia. It is no argument to say that its virtue lies in its power as an antipyretic, for it is only one of many such drugs, and by no means the best, nor can we explain its effect to be due to the soda, for soda alone will not give the result.

Our experience with it in pneumonia has justified the conclusions herein set forth. It controls the temperature, but not always sufficiently; when it does not, we bring down the temperature with a dose of phenacetine and then

continue the soda. It alleviates the pain, which is due to pleuritis, but has no specific action in this disease. It keeps the mouth and tongue moist during the course of the disease, provided no opium has been given. And we here suggest that no opium should be given, unless forced to do so, in which case it should never be repeated. The bromides can be relied upon to relieve the pain.

We could but naturally expect some disturbance of the heart's action; experience, however, has proven the contrary. We always expect weakness of the right side of the heart, no matter what the treatment may be. We kept correct statistics of our cases with a view of establishing just what, if any, difference of the heart's action in this and other treatments. The statistics show that no fear need be felt along that line, for we have had less trouble when using this treatment than any other.

As to stimulants, we have to say that our former teaching and practice was in favor of the alcoholics, but we now rarely use them.

It is not the province of this paper to say why this is so.

When the heart shows signs of weakness, or when the two sounds cannot be heard or distinctly distinguished, we prefer to use strychnia in minute doses often repeated, and rarely have reason to resort to anything else. Digitalis gives prompt relief, but leaves the patient in no better condition. We sometimes give them combined. Were we to fail with these remedies and our patient to become cyanotic and threatened with asphyxia, we would bleed him.

DISCUSSION OF THE PAPERS OF DRS. HUMPHRIES, BUFORD AND GREENWOOD.

Dr. C. S. Webb, of Atlanta: Mr. President—I shall detain the Association but a few moments. I have been very much interested in the papers on pneumonia. It is, of course, as we all know, the great enemy of childhood,

and especially of old age. We know further that it is generally accepted now that pneumonia belongs to the list of infective diseases, and that it depends upon a certain germ which our pathologists are pleased to call the diplococcus pneumoniæ, and on this account some of our best writers have gone so far as to say that pneumonia is a disease which will run its own course, and that, therefore, it deserves no treatment. Among them I might mention the celebrated Osler, Lyman, Page and others. But, gentlemen, we may not be able to avert the storm, but we can guide the ship, and so in the treatment of this disease we must look after the patient himself; that is, treat the symptoms as they arise.

Now, in the use of the fluid extract of jaborandi just mentioned, I agree with my brother practitioner that it is a good thing to use in the abortive treatment. We know that jaborandi contains two elements, pilocarpine and jaborine, which are said to be antagonistic to each other. Pilocarpine is a powerful heart depressant, and is also a powerful diaphoretic, whilst the other element seems to have a contrary effect and stops diaphoresis just as atropine does, and hence it is sometimes used for atropine on account of its direct effect. There is one drug which has not been mentioned to which I wish to call attention. It is used in the first stage of pneumonia, and I refer to the fluid extract of ergot, to reduce the temperature. I have had a large experience with its use. We know that ergot is also to some extent a heart depressant; that it slows the heart and contracts the arterioles. The profession is not satisfied exactly how it does that, either by direct action on the muscular tissue or by central stimulation of the vaso-motor system. There is another way in which we suppose it does it, or by dilatation of the veins, therefore unloading the arterial circulation. But one thing is certain, it does slow the heart and it reduces the temperature, and it is not so dan-

gerous a drug as the fluid extract of jaborandi. It has not the same depressing effect. It is proper to give to an adult from twenty to thirty drops of Squibb's ergot, and one-eighth of a grain of the sulphate of morphia, or some preparation of morphia or opium in some form. Opium is already indicated to relieve the pain, and that relieves the dyspnœa, and hence rests the heart. If you give ergot and morphia together you will almost certainly slow the heart, reduce the temperature, get up a moderate amount of diaphoresis, and give the patient excellent rest. In that way you cut short the disease just as soon.

I do not agree with those gentlemen who say that pneumonia needs no treatment. Just as soon as you relieve the pressure upon the heart, just so soon as you can stop the rapid current of arterial circulation, just so soon will you make the patient more comfortable and possibly shorten the disease.

Dr. R. R. Kime, of Atlanta: I do not like to let these papers go by without some discussion. There are important questions to be considered in the treatment of pneumonia. If, in the treatment of pneumonia, we do not distinguish between the first stage, or stage of inflammation and that of consolidation, and obstruction of the circulation after consolidation has taken place, and adapt our treatment to these conditions, we will make failures in life. I had hoped some one would take up the subject and discuss it, as I do not feel I am warranted in discussing the subject under the circumstances.

Yet I desire to offer a protest against the use of antipyretics, such as the coal-tar derivatives, in large doses, or anything that will depress the circulation after the lung has become consolidated and obstruction to circulation exists. If we do not make that distinction in the treatment many cases will be ushered into the grave as a result of using heart depressants.

So far as bleeding is concerned, it should have a *limited* place in the treatment of pneumonia. So also the heart depressants and the coal-tar derivatives. They depress the action of the heart, and should only be administered in their proper place. They should not be given in the stage of consolidation when the heart has all it can do to keep up the circulation. Under such circumstances it is worse than folly to tax the heart to its utmost capacity by the administration of such remedies. We should resort to remedies to increase the power of the heart, equalize the circulation and get rid of the material in the lung. At this stage many cases can be tided over the critical period by the hypodermatic use of strychnine. It is one of the most important remedies we have in the treatment of this stage of pneumonia. We should avoid at this stage all heart depressants, such as veratrum viride, aconite, the coal-tar derivatives and large doses of quinine, unless they are positively essential. The temperature should be lowered only when very high in order to prevent its deleterious results on the vital organs of the body, and I think one of the writers mentioned the fact that it was a reduction of the heat that we were working for. We can reduce the heat in the second stage of pneumonia with coal-tar derivatives, but they do not get rid of the cause. We may have an abscess or an absorption of pus in some part of the body, and a high temperature as a result of it; reducing the temperature does not remove the abscess, the cause of the high temperature. We must remove as far as possible the cause of the disease, and if we cannot get rid of the cause we should not increase the weight on the vital organs and produce the death of our patient by heart depressants and large doses of antipyretics.

Dr. W. H. Doughty, Jr., of Augusta: I did not intend to say anything upon this subject, but since it has been brought up in this way I will say a few words. I think

the treatment of pneumonia might be formulated about as follows: (1) Give the patient a plenty of fresh air; (2) keep him clean; (3) feed him properly; and (4) come just as near as possible to letting him alone. I do not mean that no medicine should be given, but that the physician should be careful to avoid unnecessary physicking. I recognize fully the fact that emergencies arise in the treatment of this, as of other acute diseases, when prompt and active interference with drugs or other powerful therapeutical agents becomes imperative and distinctly life-saving; but this is not the rule, but the exception. The average case of pneumonia will run a favorable course under a treatment in which drugs play only an unimportant part, or perhaps do not figure at all. It follows then that medicines should be given only when there is a perfectly clear idea of what they are expected to accomplish, and after having weighed very carefully the possibility of their doing something that they were not intended to do. It is quite probable that at times untoward symptoms which are attributed to the disease are in reality due to powerful drugs that have been administered. It has already been pointed out by the gentleman who preceded me that agents which depress the heart should be given very cautiously. I wish to direct attention to another matter of considerable importance in the treament of this and other acute diseases. I refer to the use of antipyretics. I think that in many cases too energetic measures are employed for the reduction of temperature. There is something else in a fever besides the mere elevation of temperature. In fact, fever might be described as consisting of elevated temperature plus disturbances of nutrition. An agent may bring the temperature down promptly and yet be doing harm in another direction by adding to the disturbance of metabolism already present. Experience has shown that mere elevation of temperature becomes dangerous when it becomes ex cessive

and therefore the use of antipyretics is proper when the temperature is very high; but experience has also shown that antipyretic drugs are all more or less depressing, or perhaps destructive in their effects upon the processes of nutrition, and therefore should be used with the distinct understanding that they are capable of doing harm. When it becomes necessary to give them the dose should not be larger than is just sufficient to bring the temperature within safe limits, say 102° or 102.5°. In this way the patient is protected against the dangerous effects of very high temperature, while, at the same time, the deleterious effects of the drug are avoided or reduced to a minimum. My own management of cases of pneumonia is based upon what I have just imperfectly stated. I endeavor to keep the patient clean, give him plenty of fresh air, feed him, and give him as little physic as possible. I do not remember ever having given a dose of veratrum viride to a patient with pneumonia, and I am slow to resort to powerful drugs of any kind. I think my mortality in this disease would compare quite favorably with that of other physicians.

Dr. William O'Daniel, of Bullard: I indorse what has been said with regard to pneumonia being a self-limited disease, and I think the patient needs to be supported very early. If we commence in time we lose nothing, but if we wait we cannot make up the loss.

MALIGNANT GROWTHS OF THE SKIN: THEIR DIAGNOSIS AND TREATMENT.

BY M. B. HUTCHINS, M.D., ATLANTA.

While not all the growths to be described are strictly malignant in a literal sense, the term applies in that they are either malignant or terminate in malignancy.

We have the carcinomata of the skin, with epithelioma as a related disease, and the sarcomata.

Epithelioma, being more frequently met with, will be described first.

Authors describe three varieties of epithelioma: The *superficial*, the *deep-seated*, the *papillary*.

The *superficial* usually begins as one or more pin-head to shotsized, pale red, yellowish-white, grayish or dirty-looking, waxy, hard, firm, semi-transparent growths, which gradually form, from grouping, an irregular, wart-like, superficial mass, or a plate of infiltration of various size and shape. Or it may begin in a wart, mole or other abnormal growth. The growth is at first movable with the skin, but it becomes fixed as it grows deeper. Soon there is fissuring or excoriation, starting from an accidental injury, from scratching, picking at it, or spontaneously. From these lesions there oozes a thin, scanty, sticky secretion which dries into a yellowish, or a dark, sero-sanguineous crust. At this stage it may simply resemble a wart which has been injured by scratching.

Certain little, round pearl-like bodies may be seen in the growth or at its borders, which are known as "cancroid

corpuscles," or "epithelial pearls." They can easily be pressed out. The superficial form of epithelioma is at first of slow growth, but it is likely to enlarge and, sooner or later, break down and ulcerate. The ulcer is roundish or irregular, clean cut with sloping, raised, hard, firm, almost transparent edges. Its floor is reddish, uneven, granular, bleeds easily, it, as well as the border, probably, showing dilated vessels. There is an oozing of a thin, scanty, sticky, fluid which dries into a varnish-like crust. It may remain a local sore for years or heal spontaneously, but it usually persists, sooner or later extending in breadth and depth. Robinson says that senile warts are liable to be the starting point of the superficial, and that it never involves the neighboring lymphatic glands.

The *deep-seated* variety may begin as the superficial, or start from a wart or a sebaceous tumor. It usually commences as roundish or conical, very firm, hard, translucent reddish or purplish, peasized papules occupying the skin and subcutaneous tissue. There is usually, according to Shoemaker, an areola. It is generally elevated, but it may be flattened and diffuse, or it may, in months or years, grow to form a nut-sized, or larger, roundish, dark-reddish tumor, with fine, dilated vessels in its surface, and extensively infiltrating the tissues beneath and around it. Or it may take the form of a well-defined, thick, flattened patch, depressed in the center, with a shining, waxy or pinkish surface, showing dilated vessels. Other growths may develop in the vicinity, and the "pearls" may be seen at the borders.

Finally, ulceration; the ulcer resembling that of the superficial, or being deeper, roundish or irregular, with clean cut, steep, everted, purplish, hard edges and a hard border around it. The base is granular, bleeds easily and shows a thick or thin, scanty, sticky, yellowish secretion, or the secretion may be purulent and foul. Sometimes its deep, im-

movable base shows an ulcer reaching to and attacking the bone. The glands become involved, break down, pain increases and death follows from this and exhaustion. Crocker says the deep-seated also begins in the subcutaneous tissue, with healthy skin over it, destruction then beginning deeply, forming at first only a small external opening.

The *papillary* form may at first resemble a wart, or it may begin on a wart, mole or other simple growth, or as a variously shaped smooth, spongy or raspberry-like growth, from half pea to nut size. The surface may be dry, reddish-yellow, shining, or it may be covered with a thin layer of horny, dried yellowish scales. The surface is moist and granular if it is in a moist situation. There may be a thick, sticky secretion mixed with blood, serum and a cheesy matter. If fissured, there is a similar secretion, perhaps offensive, forming brownish, adherent crusts, or there are abundant granulations. Ulceration finally. The ulcer is much like that of the other forms, roundish, uneven, the base and border hard, the edges undermined or everted, and of a purplish-red color. The granulations are small, it bleeds easily and exudes a thin, offensive fluid, which, if the disease is not in a moist situation, dries into a crust. Sooner or later there is a deep ulcer attacking every tissue in its course. The neighboring glands become cancerous, break down, the next in order may be affected, and, eventually, even the lungs, liver and heart are involved by metastasis.

The sensations produced by epithelioma vary in different persons and in the different varieties, from simply a little discomfort to intense pain.

Epithelioma is a disease which chiefly affects those in or beyond middle-life. The face is its most common position, in the order of the eyelids and vicinity, the nose, lips, cheeks and forehead. It is also common on the penis, scrotum and labia. Delafield and Prudden say that it is

more likely to occur at the junction of the skin and mucous membrane, and that metastasis is less likely to occur from epithelioma than from other malignant disease.

"The condition known as Paget's disease of the nipple may first appear as a simple inflammation, but it soon becomes a scirrhus cancer."

The physician does not often see epithelioma in its early stages, but only after it has persisted long enough to induce the patient to think of having something done for it. We are, however, often able to judge as to the class to which it belongs.

The limits of this paper will not permit of my reporting cases from my records, but a number of them have already been published.

CARCINOMA OF THE SKIN.—Authors say that these are nearly always secondary to cancer of the breast or of some other organ. There are two varieties of this disease (omitting the melanotic, which is now considered a sarcoma), the *lenticular* and the *nodular*.

The *lenticular* begins as shot-sized, or larger, papules or nodules flattish, red, above or below the level, usually on a red or violet surface, but they may develop without color, and may show dilated vessels. Finally, from multiplication and coalescence, a thick, stiff, hard infiltration is formed, purplish or blackish in color, knobby and with a sharply defined border. This is the *carcinoma en cuirass* of Velpeau, occurring on the front of the chest. At the beginning there is only itching or burning; later there may be severe, lancinating pains. The neighboring glands become involved, and death finally results from pain and exhaustion, or from the disease in the internal organs.

The *nodular* form may be primary or secondary upon the skin. It is a rare form. The nodules are at first flat or raised, deep-set in the skin and subcutaneous tissues, well defined, rounded, hard and the skin covering them is

often tense, and of any color from white to dark brown. The nodules are often numerous, grouped or scattered, or they may form irregular masses. Sooner or later there is softening, breaking down, ulceration, ending in death.

SARCOMA OF THE SKIN.—Two kinds, the *pigmentary* and the *non-pigmentary*, are described. The pigmentary, or melanotic, is more common, according to the majority, but Duhring says there are more cases of the non-pigmentary than is usually supposed. Crocker describes two kinds of pigmentary, the melanotic and the idiopathic multiple pigmented of Kaposi.

The *melanotic* may begin as one or more, at first small, discrete, roundish, hard growths, of brown, bluish or black color. It usually begins in a pigmentary mole or the choroid of the eye, but is common on the sides and back of the hands, fingers and feet, as well as the genitals. It rapidly invades every portion of the body. There is a gradual increase in size with coalescence into variously shaped masses which may later grow into a mushroom-like form and ulcerate. Some of the lesions, or of the mass, may undergo spontaneous atrophy, subsiding or giving the mass a depressed center. Entire absorption is followed by a pigmented scar. The pigmentary sarcoma is very malignant, metastasis being common. This form is usually primary in the skin.

The *idiopathic multiple pigmented* form, is rare. It appears on the hands and feet as roundish, shot to pea-sized papules, reddish-brown or bluish in color, irregularly defined, fairly hard and in large or small groups. At the beginning the papules are separate, but they coalesce later. There is a gradual extension over the surface. The affected skin and subcutaneous tissues become densely infiltrated, stiffened, painful, hard and immovable. It has a nodular appearance, and is of a dark brown or a violet color. Crocker says that dilated vessels with hemorrhages around the

tumors are common. It is not liable to ulceration. The average duration to death is three to five years, but shorter in young subjects. A few recoveries have been reported. The majority of cases occur in persons above middle age, but a number between the age of twenty and thirty, and one under twenty, have been reported. Delafield and Prudden say that sarcoma is a disease of youth.

The *non-pigmentary* form, the least malignant, may occur as one or many pea-sized to larger, round, firm, painless nodules of a reddish or pink color, and slightly scaly.

They may arise from apparently healthy skin, from a mole, wart or scar. Crocker says these cases vary much, many being subcutaneous. Shoemaker says the growth may be rapid, and even reach orange size, eventually breaking down and ulcerating, and that it takes several years to involve the system. Other affections have been described which resembles the sarcomata in structure, but they are so rare as to excuse their non-mention here.

THE TREATMENT OF EPITHELIOMA.—This must be limited to local measures, as internal treatment has no value. Incomplete destruction or removal is liable to do more harm than good. Whether caustics, the actual cautery, the galvano-cautery, ecraseur or knife are used, the operation must be thorough and the destruction of the growth complete. Duhring says the results are about equal where the methods are equally skillfully employed. The means used must be governed by the size, extent and situation of the growth. The caustics are said to be best for superficial growths. Caustic potash may be bored into the diseased tissue, and into its border, any excess being neutralized by dilute acetic acid. It is not an exceedingly painful method. Pure carbolic acid, followed in a few minutes by nitric acid, is mentioned by Shoemaker. Chloride of zinc has been used, but it is very painful, and has no advantages.

Marsden's Paste: Equal parts of arsenious acid and pow-

dered gum acacia mixed with sufficient water, is an excellent application for certain forms, as the small, not too deep. It is spread on a patch of cloth cut to fit the diseased area, and allowed to remain in place twenty-four hours. A little morphine may be added to lessen the pain. Cocaine's action is too transitory. The paste may be reapplied if it appears not to have had a complete effect. Poultices are used to hasten the separation of the eschar. A healthy wound will be left if all the disease has been destroyed, and the resulting scar is slight. Arsenic only attacks the disease, and this is a recommendation. The paste must not be applied to a surface of over two inches, and not at all to the mucous membrane.

Bougard's Paste is as follows: Wheat flour, one dram; starch, one dram; arsenic, one grain; cinnabar, five grains; ammonium chloride, five grains: mercuric chloride, one-half grain; saturated solution of chloride of zinc, four drams and five grains. The solids are ground together into a fine powder and mixed in a mortar; then while it is rapidly stirred the zinc solution is slowly added. As much as is necessary to cover the disease is allowed to remain on from twenty-four to thirty hours, and followed by poultices. Its action seems all that could be desired. Various other pastes and applications have been recommended, but they have no especial excellence. The object is to destroy the growth and leave a healthy wound. If any disease remains, the wound will not heal kindly, and treatment must be repeated. Sometimes the wound heals, but soon breaks down again with evidence of the disease. Recurrences may finally be destroyed and a cure be accomplished. The various cauteries have their use sometimes, that use being governed by circumstances.

The curette may be useful for very superficial growths or preceding the caustic application.

The knife is the last to be mentioned, but it should be first in use. There is a popular prejudice against the knife,

and people will submit to anything in preference to its employment. There are recurrences after the knife, but their frequency, their malignancy, and their terribly destructive action, following inefficient or incompetently used *applications*, remove none of the fear of "the knife." We have all seen moving arguments against the temporizing, or worse methods so often employed, and the people have seen them but without learning the lesson taught. For the majority of cases the knife is the only remedy, and it is to be preferred where not mechanically contraindicated.

The deep-seated and the papular especially require excision. Every visible particle of the disease must be removed, and with it a perfect coating of healthy tissue. If neighboring glands are involved, they must be removed, and they may contain the disease without any visible evidence of the fact. Whether the excision wound shall be treated as an open one, by grafting, transplantation, or by a plastic operation, must depend upon the case and the size of the wound. There are recurrences after all methods of treatment, sometimes curable and sometimes not. Taken early, and while yet a local or limited disease, and thoroughly removed or destroyed, the result should be a perfect cure. The trouble is, that we can often only decide with the microscope whether we have removed all.

There is little to be said regarding the treatment of cutaneous carcinomata and sarcomata.

The carcinoma is so likely to be secondary that the local treatment is of doubtful use. We must direct our attention to general palliative and supporting measures.

If the sarcomatous growths are few or single, excision may answer. Fowler's solution of arsenic, in gradually increased doses, has been reported as having cured a few cases. It is worthy of trial.

Persons suffering with a hopeless malignant disease usually resort to morphine, and why should we try to restrict their use of it? If their pain and wretchedness can be miti-

gated, why not allow it, and make their downward journey as easy as possible?

Authorities consulted: Robinson, Duhring, Shoemaker, Crocker, Hyde, Delafield and Prudden.

DISCUSSION ON DR. HUTCHINS'S PAPER.

Dr. W. H. Elliott, of Savannah: I desire to say a word with reference to the closing sentences of Dr. Hutchins's paper. I said in the address I had the honor of delivering to you this morning, that I had never advocated the habitual use of opium unless in cases of malignant trouble, such as Dr. Hutchins mentions. Then I do it deliberately, and with the idea of not only prolonging life, but what I think is equally as important, making that life endurable. I remember once being called in consultation in the case of a brother physician, who had had a large portion of one side of his face eaten away by what I presumed was epithelial cancer. Not having any microscope, or not being able to use one advisedly, I could not make any positive diagnosis. The disease had eaten away the partition between the nose and the mouth. It made eating almost impossible, and smoking entirely so. The sufferings of the patient were extreme, and all that I could suggest under the circumstances was that he should take morphine, but he was afraid that if he took morphine he would become a morphine *habitué*. I told him if he did not take my advice he had three weeks or possibly a month of life before him. His condition was so extreme that he could scarcely eat or sleep. He said he objected to taking morphine because he deprecated acquiring the habit. I said what harm will it do you? You are in so much pain that you can hardly think. If you take the right quantity of morphine it will relieve the pain and give you strength to think. After a considerable amount of persuasion he took a dose, and gradually increased the doses up to fifteen or eighteen grains a day. The patient lived for three years afterwards in comparative comfort.

THE TREATMENT OF PTERYGIA WITH THE GALVANO-CAUTERY.

BY ARTHUR G. HOBBS, M.D., ATLANTA.

I shall not presume that it is necessary in describing this method of operating on pterygia to even enumerate the many already in vogue. I should rather ask your forbearance for merely suggesting to you that yet another method is to be added to the list already, perhaps, too long; still it may be true that each of these operations has served its purpose in turn in the process of evolution. Since it is the cardinal point in making a pterygium operation to prevent two raw surfaces from remaining in apposition after the operation, which necessarily results in the relapses which we too frequently see, why not then convert each of the raw surfaces into an eschar at once to avoid such failures, provided we are able to demonstrate practically that this means will bring about that desired result?

For some years the galvano-cautery point has been resorted to in corneal ulcers, particularly in those indolent and intractable ulcers which have refused to yield to other methods of treatment. It was suggested to me a few years ago, after seeing some of the beautiful results of the cautery when applied to ulcers of the cornea, that it could, at least, produce no bad results, if properly applied to the neck of a pterygium for the purpose of cutting off the nutrition of its corneal apex. I hoped that it would prove a better means of severing the arterial supply to the apex as it crossed the sclero-corneal junction. This object is generally attained by the use of the knife, and various methods

have been resorted to accomplish the purpose. The failures in pterygium operations are usually due to the resulting re-establishment of the arterial circulation, and when this occurs the desired end of the operation fails in proportion to the number of the re-established vessels. The great vascularity of a pterygium, with its vessels crossing over the sclero-corneal line to supply its apex on the cornea, renders it difficult to permanently sever all the arteries by a clean cut with the knife; hence perhaps a score of different methods of knife and scissors operations have been resorted to by different operators to accomplish this end.

Each operator aims at one end primarily, and that is to completely cut off all the blood supply from the corneal apex. Secondarily, his desire is to destroy as little conjunctiva as possible. When the first end is attained the corneal part of the pterygium has lost its direct nutrition, and can then only share with the corneal proper for its sustenance, which is indirect, or by imbibition. As this meager supply proves insufficient atrophy results, and the partial, or almost complete, obliteration after a time will depend upon the activity of the absorbents. For this reason the best results are obtained in younger subjects, in which, as a rule, the lymphatics are more active, as is also the contractibility of the arterial coats.

In many cases when a knife is resorted to a secondary pterygium results in which sufficient nutrition is re-established to the apex to perpetuate the corneal haziness even beyond its apparent margin to greatly interfere with vision. When the cautery section is well made I have not seen these secondary results that are often so difficult to prevent by a clean cut with the knife or scissors. In some cases, however, it may be best to combine the methods of operating as I have done in two cases not included in this report. These two pterygia were extremely vascular and muscular, hence I first used the knife in the usual way and

then seared the divided edges with the cautery blade to prevent the secondary results.

The fine pointed cautery blade, heated with a battery that can be perfectly gauged and always relied on, is applied horizontally to the narrowest portion of the growth which is near the sclero-corneal line; the touch is made at the moment white heat is reached and should be almost instantaneous and reapplied as quickly if the tissues are not at first completely severed. If the growth is not adherent to the sclera and corneal margin it is best to grasp it with small forceps and slightly raise it from the sclera. When the forceps are used it is easier to be certain that the cautery has made a complete section of all the hypertrophied and over vascular conjunctival tissue.

Where the corneal head is large and protruding it is advisable to make a cautery application in the same manner as in applying it to a corneal ulcer. In both cases the resulting cicatrix is less, it is more transparent. This is not altogether an unknown fact but one that has seemed never to have been brought out as prominently as its importance would suggest. For this reason one may be tempted often to resort to the cautery to reduce a large pterygium apex or a corneal ulcer, for the purpose alone of attaining this corneal transparency. The resulting eschar so completely severs the vascular connection, leaving no raw surfaces in apposition, that a re-established circulation is practically impossible; this cannot be said when the knife or scissors has been used. In case the redundancy of tissue at the point of section should seem to require reduction, the scleral end of the section may be turned under and a transverse suture introduced.

I have made this operation fourteen times, and would have made it half as many more times during the last two years but for that decided objection to the cautery which we so often meet with and are bound to respect. This operation

is more quickly performed; it is followed by no bleeding; it leaves no ecchymosis; the wound heals more rapidly; there is less pain during and after its performance; it requires no bandages and the corneal haziness around the apex is less.

A weak solution of cocaine, about a two per cent., is first dropped into the conjunctival sac; then after about five minutes a stronger solution, about a ten per cent., is applied at intervals, locally, by means of a small cotton probe, for five minutes more; in the meantime the lids are held open. By this means the toxic effects are avoided except in those subjects that are unusually susceptible to cocaine. In using cocaine in this latter strength, I try to avoid as much as possible, by the position of the patient, its contact with the cornea. It is a well known fact that, when used in this strength, or even when much weaker, this drug is disastrous to an abraded cornea if long continued.

The kind of galvano-cautery apparatus, the ease of its manipulation, the size of the blade, the confidence of the hand that presses the button, the requisite degree of heat, which should be gauged by the turn of the screw, are some of the necessary factors in this seemingly simple, yet delicate, little operation, whether it be made to a corneal ulcer or to the neck of a pterygium. The only galvano-cautery apparatus in my knowledge that I would now be willing to trust for these purposes is the "Transformer" of the alternating current of fifty-two volts.

I am now using, in my consultation rooms, the first two of these little instruments made. I described the varied uses and advantages of this "Transformer" in a paper read before the Pan-American Congress last fall. So far as I know, the galvano-cautery has not hitherto been used as a means of cutting off the nutrition of the corneal apex of a pterygium.

DISCUSSION ON DR. HOBBS'S PAPER.

Dr. J. H. Shorter, of Macon: I think Dr. Hobbs is to be commended for his originality. I do not think the treatment of pterygium with the galvano-cautery has been tried before, and I should think it might be a good procedure. I do not see why the circulation should not be re-established as quickly and thoroughly as it would be after excision. I do not know that the method of removal of tissue has much to do with the establishment of the circulation afterwards.

There is one point to which I desire to call attention, and which is a matter of considerable importance, and that is the use of strong solutions of cocaine in the conjunctival sac. So far as its influence on the cornea is concerned, he will find that the deleterious effects are due to lifting up the epithelium partly, partly to the desiccation, and partly also to the fact that there is no longer complete anesthesia. There is no reflex stimulus which, by causing winking, cleanses the eye. Whatever the cause, it can be obviated by having the eyes closed in order to keep the cornea moist.

Dr. R. O. Cotter, of Macon: I regret very much that I did not hear the first part of the paper read by Dr. Hobbs, but I understand that he referred to the treatment of corneal ulcers in a general way. I think it is unfortunate that that plan of treatment which he has mentioned is not more frequently carried out. In serpiginous ulcers of the cornea and the ulcers of old people, no treatment is so prompt as the galvano-cautery in the hands of the right party.

As to the pterygium operation, it is a brand new thing to me. If you examine the transactions of the Georgia Medical Association for the last six years or so, you will find that I have tried to impress the general practitioner with the importance of not using cocaine in ulcers of the cornea. I have come to the conclusion that cocaine should

not be used except as an anesthetic in operations, or for certain uses in testing for glasses. For instance, I usually combine it with homatropine to dilate the pupil. These are the only two uses I have made of cocaine, namely, for an anesthetie operation, and for dilating the pupil. I do not consider it of much account as a remedy, still I find cases come to me where cocaine has been used, and strange to say they will keep it up.

Dr. Hobbs, in closing the discussion on the use of the cautery in pterygium operations, said: I am glad that the point, now more generally understood than when I first published it about three years ago, has been noticed and especially emphasized by both Dr. Shorter and Dr. Cotter. Their additional testimony, to my own, will only the more emphasize the fact that cocaine is dangerous when continuously applied to an abraded cornea. When I wrote a little brochure some months ago on "The Uses and Abuses of Cocaine," I roughly calculated that I had used about twenty pounds of the drug. Four years before this time some of the wholesale druggists of Atlanta said, as I was told, that I used as much cocaine as was used by the rest of the State. Of course, now since the drug has come into such general use such proportions do not hold.

Since the cornea receives its nutrition by imbibition, it is easy for you to see how natural it is for its circulation, and hence its nutrition, to be retarded by such a local anesthetic as the hydrochlorate of cocaine.

I was once unfortunate enough to have this fact confirmed in my own eye. Being away from home when a hot clinker from a passing engine penetrated my left cornea, I could not resist the soothing effects of cocaine even after I had dug out the foreign body under its effect, but the result came very near being disastrous to my eye.

I had hoped and expected to have a clinic case here to-

day, so that I might show you how easily the white-heat cautery would sever the neck of a pterygium without pain or hemorrhage. In conclusion, I thank you, gentlemen, for your courteous attention.

CHRONIC SORE LEGS AND HOW TO CURE THEM.

BY J. W. HALLUM, M.D., CARROLLTON.

My paper is very short, only giving a synopsis of the subject under consideration; determined that it shall possess at least one thing commendable, that of brevity. Yet I think it sufficiently full to convey my ideas, that I trust will be of benefit to some of our profession.

Chronic sore legs is one of the diseases, or the results of a disease, that we often meet in our healing journey. An old chronic indolent ulcer is very unpleasant to its bearer, and tedious to cure by the physician or surgeon.

The remarks of this paper must be understood to exclude specific and malignant ulcers.

We shall discuss a simple chronic ulcer that has refused to heal from all efforts of nature that have been brought to bear upon it; the result, probably, of varicose veins, perverted, physiological nerve force and traumatism; an ulcer usually met in adult life in an increasing ratio as life advances.

We generally find them manifesting a decided preference for the lower *third* of the leg, where they may have been for years and years. They are various sizes, shapes and depths, involving cuticle, the true skin and cellular tissue. The tissue surrounding these ulcers has undergone various changes that have increased more or less according to the time elapsed and the vitality or resisting power of the patient—infiltration or edema, hypertrophy, change of sensibility, and so on.

It is not uncommon for all of these changes to have taken place even years before the ulcer appeared.

It is not our purpose to give you the etiology or pathology of these ulcers, but the treatment shall be our object, especially the simple mode. We can all, doubtless, diagnose an ulcer, and have *long* been curing them by curetting, cauterizing, cleansing with disinfectants conjoined with the roller bandage. But these modes are painful and alike tedious to patient and physician.

I wish to present to you a treatment that I have found efficacious in the cure of these ulcers. A treatment that was new to me but it may be old to you. I have been curing these ulcers by painting them with carbonate of lead and linseed oil in the following proportions:

Pure white lead (ground in oil)	℥ xv.
Raw linseed oil.	℥ vi.

Mix well and sign. Paint the ulcer once or twice a day after washing with warm water; dry well before painting. The best thing to apply the remedy with is a camel's-hair brush. I am not able to tell you how this application brings about a cure.

Carbonate of lead is sedative, astringent and probably possesses disinfectant powers, all of which are quite essential in the cure of these ulcers.

I will not picture to you how the ulcer begins to generate new healthy granulations, because you can observe that for yourselves if you will only give this prescription a trial. The shortest time that I have been able to accomplish a cure by this method was six days. That ulcer was two and a half inches in diameter, and of three years' standing, but had not penetrated the entire true skin. The longest time that has been required to accomplish the same result was seven weeks.

In this case the leg measured fourteen inches in circum-

ference at the ankle. The ulcer surrounded the entire leg, varying in length from two to five inches, presenting a very rough, ragged, rat-eaten appearance. It also varied in depth from one-quarter to apparently three-quarters of an inch, and was represented to me as being a tormenter of twenty-eight years. I have used this prescription in only six cases, and in each with the most gratifying results. There was no other remedy used either internally or externally.

Two of these cases were treated in 1889, and they have not shown that tendency to return that our experience has taught us to expect. One of the cases was a gentleman of sixty, in whom the ulcer had returned after being cured by bandaging and wearing elastic-stockings. Twelve months thereafter the ulcer returned. In October, 1893, I had the pleasure of examining that leg, and learned from the old gentleman that his leg had never been sore since the treatment in 1889. None of the cases, so far as I have been able to follow them, have returned. The treatment is simple and, I think, devoid of danger.

You may differ with me, as our books and experience teach us that lead can be absorbed and produce constitutional effects. I ask you, gentlemen, to give this prescription a fair trial and report the result, as by this means alone we possess the power of proving the falsity or truth of the curative properties of preparation of lead and oil.

I don't think you need fear the absorption of this remedy in sufficient quantities to produce any bad results, especially in an ulcer that we doubt has the power of absorbing anything. If these ulcers do absorb, explain to me, *in behalf of science*, why they do not destroy their recipients with the contents of their own foul mouths filled with dead and putrefying masses of granules and tissue, which no one dare say is less poison than insoluble plumbi carbonas.

DISCUSSION ON DR. HALLUM'S PAPER.

Dr. F. W. McRae, of Atlanta: I am very glad indeed that Dr. Hallum has found a remedy that will cure sore legs. They have been the bane of my medical experience. I have tried all sorts of things to relieve them, and there are a good many cases that I have been unable to relieve permanently. If this method of treatment recommended by Dr. Hallum will permanently cure sore legs, it is a valuable addition to the armamentarium of the surgeon. The treatment I have adopted was handed down to me by the elder Westmoreland, and it is that of thorough disinfection and the application of a roller bandage so as to support the parts, to drive out the excess of blood and allow normal nutrition of the tissues. This is the only treatment that has proved beneficial. I have not used skin-grafting, or painting the part with the carbonate of lead mentioned by the doctor, but I should like to know the results of this method of treatment in other hands.

Dr. W. H. Elliott: Do you allow your patient to walk about during the treatment, or is he confined to bed?

Dr. Hallum: I let my patients go on with their every-day work.

A Member: I would like to ask Dr. Hallum whether in cases of suspected syphilis he uses constitutional treatment?

Dr. Hallum: In my paper I excluded syphilitic and malignant ulcers. However, if the cases were syphilitic, constitutional treatment would certainly be indicated. I do not think there is very much more for me to say in closing the discussion. I would like to insist upon the members of this Association trying this prescription. It is an important matter, and my results have been such that I have been astonished. I want to tell you how I learned it. The method is not original with myself. About five years ago I was building a house and I had one of the old

woolly-headed negroes working around the house, and while painting the house he stepped up one day and said to me that paint would cure sore legs. He pulled up his pants and I saw an ulcer on his leg as large as my hand. He took the brush and painted it. The idea struck me to watch the result, and, as he was working for me, I had an opportunity to do so. At the end of ten days the negro's leg was well and has not broken out since. His leg is just as well to-day as it was ten days after the application, and I will say it has been the result with all of the cases I have since treated.

DIAGNOSIS.

BY H. PERDUE, M.D., BARNESVILLE.

I do not propose to introduce anything new to the profession, but if I can stimulate the general practitioner to a greater zeal for a more extensive and thorough knowledge of the diagnosis of diseases my object will have been accomplished.

Neither shall I undertake to describe any of the methods of examination, nor the nature, character and symptoms of diseases. Works on practice, and especially works on medical and physical diagnosis, give these.

The importance of this subject, I feel, is so great that I offer this my plea for a greater proficiency by the average doctor in this branch of medical science. Proficiency should be the aim in all the professions of life, but the momentous relationship which the physician sustains to society, to families, and to individuals demands the most extensive acquaintance with, and the greatest degree of proficiency in the healing art.

A definite and well-defined purpose is demanded in all the undertakings and pursuits of life. Unwise is he who begins a journey without knowing whither he is going. What mariner would undertake to steer his vessel across that trackless ocean, with its threatening storms and roaring billows, without his compass to guide and direct his course? More foolish is he who assumes to combat the diseases of life, of the nature and pathology of which he knows nothing. Life, that precious gift of God to man, is

too sacred and holy a thing to fall into the hands of ignorant quacks.

Diagnosis necessarily precedes all rational treatment, and hence without it the medical man gropes about like one in the dark, or a blind man, feeling his way here and there, uncertain which way to advance.

The ability to make an early and quick diagnosis should be sought, and, if possible, attained by every physician. It enables one oftentimes to abort diseases; and, even when this cannot be done, the violence of the attacks may often be modified, and their duration abridged. All know how necessary it is to quickly differentiate between compression and concussion of the brain; between incipient phthisis and bronchial catarrh; between invagination of the bowels and intestinal colic; and between the diseases manifested by skin eruptions. Even in that slow disease, typhoid fever, this assertion is verified. Its identity should be early recognized, because, during the first few days of its onset, the bowels should be cleaned out and put in good fix for the advance of this serious disease. For reasons known to all, the irritation of brisk cathartics should be avoided after that period. It is also important that at the very onset the infecting excreta should be received into vessels containing antiseptic solutions and buried, to prevent infecting others, and even reinfecting the patient.

He who is thus gifted easily takes vantage ground over his more tardy and unskilled neighbors. Fortunate is he who possesses that acute perception that enables him at a glance to see the true character of the disease that confronts him, as it is beginning to invade the citadel of life. Like a good general, he waits not till the enemy has taken the strongholds, but, with a quickness and decision born of success, he snatches victory from defeat and plants his banner where rewards and honors await him.

Thoroughness should be the aim of every physician.

None should be satisfied with attainments short of the ability to make a diagnosis through scientific and practical methods of research. In this way alone can one obtain that clear and positive knowledge that will make an aggressive treatment safe, and thus alone can he do justice to those who put their health and lives in his hands.

A careful and thorough examination inspires the patient and his friends with confidence in his medical adviser, a consideration of no mean importance, and gives him the happy consciousness of duty done.

No man can be learned in the profession without being skilled in the means of diagnosis. It is the very gateway to success. Here laurels await those who enter through its portals. Grateful patients honor and praise the skill and knowledge that raises them from beds of sickness and peril to radiant health with its attendant joys.

Many diseases have so many symptoms that are similar that it is impossible to make a differential diagnosis without thorough knowledge of the means. To be a good diagnostician demands that one should not only be familiar with the symptoms, both subjective and objective, but he must understand regional anatomy, the size and location of internal organs.

Science stands ready with her vast means of resource to aid him who, by labor and persistent effort, will court her favor. The microscope reveals things hidden from the naked eye, and chemistry stretches forth her friendly hand in behalf of the afflicted.

Errors in diagnosis being of such grave importance, this subject demands the most serious and earnest consideration of every one who enters the profession. What must be the harrowing reflection of him who, through ignorance and inattention, scatters along his pathway ruin and death? Even the majesty of the law frowns upon ignorance or imposes fines and other punishments on those who, thus

neglecting their duty, entail misfortunes upon their patients.

Let us for a moment consider this matter more minutely. A weeping mother stands at the bedside of her only child, who in wild delirium is tossing upon his pillow. Her wringing hands, and lips silently moving in prayer, show the intense agony of her soul. Who could look on such a scene and not participate in the tender sympathies of the occasion?

In this hour of peril to the patient, the capacity of the medical man is of supreme importance. Mistaking the diagnosis, he may use remedies contraindicated, and thus hasten, instead of averting, an unfortunate result. Patients have occasionally gone down under treatment based on wrong diagnosis, which if understood would have led to a different and happy termination.

That hydra-headed monster, syphilis, as exhibited in lesions of the brain and its arteries, of the larnyx, the viscera, the eye, etc., is so destructive in its work that often an early diagnosis is absolutely necessary if the patient is to be saved. Every physician has seen the wreck and ruin of its march.

I attended a man of good family connections and social standing who was so furiously insane that it required the constant efforts of three or four men to restrain him from violence. He had such severe convulsions that it seemed he must die. After two or three days of fruitless efforts to relieve him, I thought of syphilis as the probable cause. After an inquiry into his past history from some of his friends, I put him upon large doses of potassium every three or four hours, and mercury, when lo! the storm began to subside; soon all was calm, and again he went forth clothed and in his right mind.

I was called to the bedside of a young man who, for

three days, had suffered intense agony in his abdomen during the afternoon. The family, thinking he had been poisoned, emptied his stomach by emesis, but no relief came. Obtaining an account of the times and nature of the seizures, I decided it was a violent attack of malaria, bordering on congestion. With remedies based on this idea, he was cured in a few days. He who early perceives the signs of approaching congestive malarial fever, and acts promptly, will avert the sad reflection of patients lost that should not have been.

A boy, three or four years of age, had been under treatment for supposed locomotor ataxia. Galvanism and internal treatment were vigorously pushed, but he grew worse until he was unable to walk, or even stand on his feet; and really death seemed to stare him in the face. His attending physician pronounced his case a hopeless one, and deserted him. A medical friend and I were called in. We found an adherent prepuce, which we believed might be the cause of all his troubles, and which had brought him so near to death. That being released, and internal treatment begun to relieve the symptoms and the results of the long continued irritation, we had the satisfaction of seeing the child completely restored to good health in two or three weeks. We received the commendation of glad parents, besides a suitable fee.

A well read medical brother once sent for me to see with him a young lady, whom he had been treating for malarial remittent fever. I found his patient so exceedingly nervous that the crowing cock had to be sent away, the friendly dinner horn hung listless from the walls, and all things showed the appearance of a hushed and silent home. After some inquiries into the treatment, I decided she was suffering from cinchonism. He wondered why his quinine did not cure her. We stopped the large doses of quinine and put her on brom. pot. and elix. val. ammo.

combined, to quiet her, and gave her tonic doses of iron and arsenic. Soon the whole scene was changed, and the patient constantly improved till recovery was complete.

As is often said, this is a wonderful age of progress. Probably it is nowhere shown greater than in the more thorough methods of the healing art. Useful discoveries are constantly astounding the world. Perhaps in all the past history of the world, so much labor and research have never been exhibited. The activities of investigators seem to be pushing their discoveries to the very horizon of research, and the arcana of nature, so long concealed from man, unfold their beauties to his astonished view. He boldly walks into the "sanctum sanctorum" of material nature, and turning on the calcium light of science, he gathers from her dark recesses her gold, and diamonds, and pearls, and rubies. Anatomy, that once was thought to be a finished study, lays bare her mysteries to the world, and science, like a good Samaritan, quickly utilizes it all to the relief of suffering humanity. The brain till of late was a dark domain of anatomy. Now many investigators are laboring in this field of diagnosis, and are bringing to our knowledge important truths, which will prove a benefaction to mankind.

In 1870 Fritsch and Hitzig demonstrated to the world the existence of localized areas of function in the cortex of the brain. Since that time investigators have located many motor centers, so that with great certainty the location of brain injury can be diagnosed and the offending cause removed.

Rich, undiscovered fields here still exist; but the gates are ajar. The ambitious are rushing in. Lasting honors and the gratitude of posterity to the end of time are in store to the memory of successful explorers.

DISCUSSION ON DR. PERDUE'S PAPER.

Dr. C. S. Webb, of Atlanta: I have only a few words to say in reference to the subject of diagnosis. I consider it one of the most important subjects which can come before us. I think all of the young men who have been in my classes will testify that I have insisted upon three things: *First*, what is the matter with the patient? *Second*, what do you wish to accomplish? *Third*, how will you do it? When you give medicine you want to know what you are giving it for. As Dr. Perdue has stated, what mariner would undertake to steer his vessel across the trackless ocean, with its threatening storms and roaring billows, without his compass to guide and direct its course? There is one idea I wish to impress upon our members, and sometimes we can make an idea lasting by illustrating it with something that seems ridiculous. It is this: First of all, the physician must be a close observer. It is his business to see things that the patient does not know that he is seeing or expected to see. In the second place, he must not let his observations deceive him. He must be sure that he comes to the proper conclusion from his observation; in other words, he must be a good reasoner. To illustrate: I heard the celebrated Dr. Nathan R. Smith, of Baltimore, who was a great surgeon and whom we all remember, deliver an address on the subject of diagnosis at the University of Maryland, and to illustrate this idea that the physician must be a close observer and not let his observations deceive him, he said this: There was a certain physician in the country who had with him a medical student. He was taking the student around with him to see his cases. One day they went together to see a certain case, and when the doctor went up to the bedside looking as solemn as possible, he noticed the patient's tongue, felt and counted the pulse beat, and felt for the patient's stomach a little. He said, "My friend, you have

been violating my instructions with regard to diet. You have been eating raw oysters." The poor man was frightened to death, almost, and confessed that he had been eating raw oysters. When they left, the student asked the doctor this question: "Is it possible, doctor, that medical science has come to this, that by feeling a man's pulse, looking at his tongue, and punching him in the stomach a little, you can tell he has been eating raw oysters?" "Pshaw! if reputation will come to us, do not let it get away." The doctor then said that when he entered the room he saw a pan of oyster shells under the bed and suspected that the patient had been eating raw oysters, and he accused him of it, and he confessed. The next day he sent the student to see the patient, but did not go himself. The student came back, and the doctor said, "Well, sir, how is the patient?" "Well, doctor, the man is in a bad fix." "What is the matter with him?" "He has eaten a horse." "What evidence have you of the fact?" The student replied, "Well, I looked under the bed and saw the saddle and bridle."

SUTURE OF THE TENDO-ACHILLIS—A CASE.

BY LUTHER B. GRANDY, M.D., ATLANTA.

Accidental division of the tendo-achillis is necessarily of rare occurrence. Tendon surgery, it seems to me, has been somewhat neglected in our text-books and surgical works of reference. Some late journal articles have appeared with very careful directions as to the best method of suturing divided tendons, but some of these methods appear more complicated than ordinary circumstances will require.* Here, as everywhere else, we should aim at simplicity, if by so doing our object and the good of our patient may be accomplished as well. The following case will show how simple approximation of the ends of so powerful a tendon as the tendo-achillis may be followed by perfectly satisfactory results, even in spite of unfavorable conditions:

August 7, 1893, a young man, carpenter, was working with his adze, astride a piece of timber. In some way, the tool glanced and inflicted a clean-cut wound on the inner and posterior aspect of his left leg, about one inch above the internal malleolus. He was brought at once to my office, and an examination was made, my associate, Dr. B. W. Bizzell, assisting. There was very little hemorrhage. Extension of the ankle was completely lost. For about one inch and a half above the incised wound there was a deep depression, which corresponded with the gap between the ends of the divided tendon. A complete division of

*See lecture by Dr. Augustus Wilson, in *International Clinics*, Volume I., Fourth Series.

the tendo-achillis was, therefore, easily detected. We decided upon immediate suture. The patient was etherized and a longitudinal incision made long enough to enable me to reach and bring down the retracted upper portion of the tendon. A stout braided silk ligature was then passed through the two ends of the tendon, about three-fourths of an inch from the cut surface, and on either side of this ligature a stout catgut ligature was passed. Thus the ends were evenly, but not tightly approximated. The external wound was then closed with interrupted silk sutures and the proper antiseptic dressings applied. The ankle was put up in plaster of Paris, in a moderate talipes equinus position, a window being left over the cite of the wound for subsequent dressings. The skin-wound healed without difficulty. The silk ligature, the ends of which had been left protruding from the wound, came away on the fifth day. At the end of four weeks the patient begged me to remove the plaster, and with some reluctance, I consented to do so, on condition that he would not use his foot for two weeks. When the plaster was removed he could flex and extend the joint fairly well. A certain amount of union had evidently taken place, but this must have been imperfect, as shown later.

Two or three days after the plaster was removed the patient sustained a fall and the ends of the tendon were completely disunited. He again came to my office and presented the same symptoms as before, with the exception, of course, of the external wound. We cut down upon the tendon and again brought the two ends together. This time we used two silkworm gut ligatures, passed anteroposteriorly and from side to side, the two thus crossing one another at right angles in the substance of the tendon. We concluded to allow these sutures to remain *in situ*, hoping that they would become encysted. The ankle and leg were again put up in plaster, as before. At the end of

six weeks the plaster was removed. The tendons had again united, but two small sinuses were seen, from which some pus was escaping. These sinuses resisted all efforts to make them heal. As the patient lived several miles in the country, I advised him to enter the Grady Hospital so that these sinuses might be thoroughly opened and packed. He did so, and the necessary operation was done about Christmas, 1893, by Dr. H. P. Cooper, attending surgeon to the hospital. The silkworm gut ligatures were also removed. The sinuses now healed without difficulty. There was some talipes equinus resulting, which, I assured the patient, would gradually disappear.

The gentleman is here for your inspection. There is no talipes remaining, and you can scarcely detect any lameness or other impairment of function. He has returned to his occupation as carpenter, and suffers no inconvenience.

DISCUSSION OF DR. GRANDY'S PAPER.

Dr. Robert Battey, of Rome: I desire to say that this case has a parallel in my own experience dating back thirty-six years ago. It was the case of a negro carpenter, happening very much, I suppose, as Dr. Grandy's case happened. It was usual with carpenters then to employ the adze in flooring rooms. Those who acquired great skill and agility in that line of work were accustomed to chip two or possibly three chips, then throw the adze right over the shoulder, turn it around, and bring it down and cut out the three chips with a single chip. That was their method of doing the work—a very dangerous one, by the by. In this case, as the carpenter brought back the instrument with considerable force, he thrust the edge of the adze into the bones of the leg, completely severing the tendo-achillis. In this case, away back thirty-six years ago, we did not have the same expedients for the management of surgical cases that we have now. But fortunately

I chanced to have been interested a year previously in the subject of vesico-vaginal fistula, and had remnants of silver wire left on hand from that operation. The expedient suggested itself to my mind at once, and with the assistance of a patron of mine, a good stout farmer from the country, we did the operation, taking a pair of large bull-dog forceps, with two good claws on each end. These forceps were thrust right up into the sheath of the tendon. I did not make a longitudinal opening in the sheath of the tendon at all, but simply thrust these forceps into the sheath of the tendon, and like the old trapper's trick of the coon hunting fish in a hollow log, he keeps poking his hand in as long as he can poke in search of his game; the coon then attempts to draw his hand back with the game in his grasp, and the trapper having preceded him there and put in three well-filed nails converging towards each other, the coon finds it is "no go." In the absence of these nails in the smooth sheath of the tendon, when you have the points or barbs of the forceps buried in the tendon, the assistant can take hold of the instrument and pull to his heart's content. So in my case the farmer pulled the tendon down until the severed ends were in contact with each other. The skin was lifted up on either side, and the three sutures inserted were lodged away up in the substance of the tendon, then carried down through the lower fragment of the tendon, and the two nicely brought together by twisting the wire evenly until the fragments came as accurately in contact as a cutaneous wound would be after sewing it up with thread.

As before remarked, this case occurred in my practice before the days of antisepsis. There was no suppuration in the case. It was a case of nature's antisepsis. The wires were removed some time after the union of the tendon was formed, and it was as solid as in the case that has been presented by Dr. Grandy.

By the way, I ought not to have delayed until now to compliment the doctor on his excellent result.

Dr. William O'Daniel, of Bullard, also reported a case in which the tendo-achillis was divided, that occurred in his practice some twenty years ago. The patient was a farmer. In this case wire was used for suturing material, and the patient made a perfect recovery.

INFLAMMATION OF EXTERNAL AUDITORY CANAL FOLLOWING FACIAL ERYSIPELAS.

BY P. R. CORTELYOU, M.D., MARIETTA.

Mrs. C., widow, aged sixty-eight, consulted me January 1, 1894, giving the following history: In August, 1893, she was attacked with facial erysipelas on right side of face, commencing on under lip, and extending entirely over the right side of face, but leaving the left side unaffected. The usual treatment of tincture of chloride of iron internally, and tincture of iodine, and nitrate of silver externally, was used by her family physician. The inflammation involved the right ear, which became much swollen, and after a week or ten days began to discharge a very offensive matter. This condition was treated with warm carbolized injections, and laudanum and olive oil dropped into canal. The inflammation subsided, and discharge from ear ceased from latter part of October till latter part of December. During this time the patient complained of deep-seated pain in right ear, and intense burning of side of face, lower lip and tip of tongue on same side, the feeling being (as patient expressed it) as though the parts had been touched with a coal of fire. The face on that side would also become very much flushed. Her physician told her that these symptoms were not caused by the condition of ear; but were due to the state of her nervous system. Various measures were tried to relieve this intense burning, but all without any success, the patient suffering very much from its daily and almost constant occur-

rence. The discharge from ear coming on again the latter part of December, 1893, she then consulted me.

On examination I found lobe of right ear somewhat swollen, and tender, also swelling and tenderness of tragus, and face near it. A thick heavy discharge from aural canal, very tenacious, with severe burning pain of side of face, lower lip and tip of tongue on right side. Hearing distance of watch "contact." The throat also showed some pharyngitis and post-nasal irritation, and anterior nasal canal on right side was congested and irritable, patient saying that it often became completely stopped up, especially at night.

The ear was syringed with warm water, after which a twelve volume solution of peroxide of hydrogen was dropped into the canal, which caused, as patient expressed it, much frying. The canal was then dried with absorbent cotton, and upon examination with aural speculum, was found to be denuded of epithelium in places, and especially down near drum membrane. The inflammation showed a condition of acute eczema of the canal. The canal was filled with powdered boric acid. The throat and nasal passages were then sprayed with an alkaline solution, and the fluid extract hydrastis (colorless) applied on cotton. The ear was inflated by Politzer's method, and nasal passages then sprayed with spray of albolene, with ten drops of eucalyptol to the ounce. Also ordered Fellows' Syrup of Hypophosphites combined with Fowler's Solution of Arsenic, three times a day.

The local treatment of ear and nasal passages was made every other day, and on this line of treatment there was much improvement, and the burning of face, tongue and lip much less. Hearing distance for watch increased to four inches. The aural canal not assuming healthy action, I applied nitrate of silver, twenty grains to ounce, two or three times a week.

The latter part of February, from exposure to cold, the inflammation returned in acute form, the lobe of ear becoming much swollen and very tender, also tragus and the parotid gland very tender and congested; pain and burning in the face, lip and tongue very severe. Ordered syringing with hot water, also slippery elm poultices alternated with hot salt bag applied to ear; a four per cent. solution of cocaine dropped into canal, as needed to relieve the pain, and anodynes at night to promote sleep. After a few days there was a free discharge from inner part of tragus, and also from several points in the canal, with relief of pain and swelling. Again used solution of peroxide of hydrogen and powdered boric acid as a dressing, alternated with powdered aristol. Gave as a tonic Elixir of Three Chlorides in place of Fellows' Syrup of Hypophospites.

March 19th patient again began to improve, but the canal still showing a tendency to keep raw and irritable and in a condition of chronic eczema; I ordered sulphate of zinc 15 grains, alcohol ℥ ii, aquæ ℥ ii, to be warmed and dropped into ear several times a day. This change of treatment acted nicely, and swelling disappeared and canal became more open, and the pain and burning were considerably relieved, but did not disappear.

The case is still under treatment, but not with good prospects for recovery. This case has been an interesting one to me, on account of the special symptoms of burning on the side of face, lip and tongue, and its being confined to right side, showing some implication of nerves of that side.

DISCUSSION ON DR. CORTELYOU'S PAPER.

Dr. R. O. Cotter, of Macon: I came in too late to hear the first part of Dr. Cortelyou's paper. From the symptoms I heard him relate, I judge he dealt with what

we call "diffuse inflammation of the external auditory canal," and not the circumscribed variety. In those cases, in the acute stages, I am very fond of leeching. I apply one or two leeches to the tragus, which will cut short the inflammation and check it, and, with the hypodermatic injection of morphine promptly given, that frequently cuts it short. When the inflammatory condition of the external auditory canal has advanced to the stage described by the doctor, the treatment should be supportive, using the syrup of hypophosphites, etc.

During a practice of thirteen years in the treatment of eye and ear diseases, I have failed to get any benefit from nitrate of silver in external inflammation of the ear. I think well of the use of boric acid. It alone and supportive treatment will most often cure the patient. In some cases nothing acts so well as a poultice. Sometimes it acts like a charm, although I am not in the habit of using poultices a great deal.

Dr. J. H. Shorter, of Macon: The chief reason for the extreme chronicity of some cases of otorrhea, tediousness and unsatisfactory results of treatment is almost always to be referred to bone necrosis or to imperfect cleansing, both of which are due to difficulty of and impediments to perfect drainage offered by the anatomical structure of the tympanum. The attic, communicating as it does with the rest of the drum cavity by a narrow opening, is easily cut off and isolated, and becomes a receptacle for retained pus, mucus, detritus, etc., which are most difficult to clear away. The proper treatment is often an operation for removal of the ossicles. The latter are sometimes diseased, but even if not their removal makes free space for good irrigation of the attic, as well as rest of drum cavity.

Dr. Cortelyou (closing the discussion): This patient has been troubled in times past with eczema, and that led me to consider the case as eczema following an erysipela-

tous inflammation. There was the presence of eczema, and then relapses would come on, and it has continued in that way. The case is extremely interesting to me on account of the special symptom of burning on the side of the face, lip and tongue, it being confined to the right side. That condition improves as the ear gets better, and when the ear gets worse it gets worse.

CHRONIC OTORRHEA—ITS SIGNIFICANCE AND TREATMENT.

BY DUNBAR ROY, A.B., M.D., ATLANTA.

Some one has said that the eye is "the window to the soul" and I feel justified in extending the metaphor by saying that the organ of hearing is the portal to our most sentient nature. It is true that the eye makes us cognizant of the beauties of nature—its mountains, its vales—its rivulets and oceans—its autumn leaves with their myriads of tints, but it is equally true that the organ of hearing puts us into communication with the outer world by a sense even so subtle as that of sight; it causes a weird trance of the imagination, filling the soul often with the sublimest ecstasy, causing us to burst forth in admiration for the words of the immortal poet who said,

> "The man who hath no music in his soul
> Nor is not moved by concord of sweet sound
> Is fit for treason, stratagem and spoils."

How necessary is it then, not only from a sentimental view as the above, but also from one more practical, that we should endeavor by proper hygienic measures and, as far as possible, by the proper treatment, to preserve the integrity of the organ of hearing.

My object in presenting this paper is not for the purpose of going into the intricate pathology of this morbid process, nor to bring forward any new and startling facts in its treatment, but in a practical manner to refresh the minds of those whose privilege it has not been to keep pace with the rapid

advances in otology, and at the same time to incorporate some ideas gained from personal clinical experience.

Otorrhea etymologically means a discharge from the ear, but by common acceptation of the term it is usually understood as referring to a chronic running from the external auditory meatus dependent upon a morbid state of the tympanic cavity. Every discharge from the ear has its source and its distinctive cause, which must be thoroughly ascertained before one can ever hope to treat successfully this class of troubles, for he who uses ear douches at random, or swabs out the ear in the same manner, will often come to grief, and such can never hope to rise to that prominence in his chosen profession which comes by exactness and knowledge of the subject, coupled with a large amount of common sense. In teaching at the Southern Medical College my habit has been to consider all chronic discharges from the ear as having their origin either in the external or middle ear.

1. CHRONIC DISCHARGES FROM THE EXTERNAL AUDITORY MEATUS.—(*a*) Discharges which usually occur in some portion of the human economy arise almost without exception from cavities lined by mucous membranes, and hence it looks quite anomalous that a discharge should arise from the external auditory canal which is nothing but a dermoid surface. That such is the case no one can doubt who has ever had much clinical work in ear diseases. Sir Joseph Toynbee, in his work on "Diseases of the Ear," published in 1860, enumerated many cases of pathological conditions of the external canal where one of its most common symptoms is a discharge from these parts. Sebaceous, sweat and ceruminous glands are abundantly scattered in the dermoid layer of the canal, and only need an irritative factor in any form to produce a hyperemia and congestion of the parts, to be followed by a milky discharge. One of the most

frequent causes of this symptom is a moist eczema of the canal, and closely allied to the same, as far as treatment is concerned, is the pathological condition known as otomycosis depending upon the presence of certain parasites for the production of this morbid state. The symptoms of the two conditions are much the same. On looking into the external auditory canal one will observe a wet, soggy condition of the parts, flakes of moistened epithelium like blotting paper clinging to the walls, and in addition, a turbid discharge exuding from the canal. Such a condition is not infrequently met with; hence it behooves the physician to be ever on the alert for the true diagnosis, since by the proper applications the parts can soon be restored to their normal condition.

The treatment consists in syringing the canal at the first sitting with a warm solution of biborate of soda, cleaning the canal with a small curette, drying thoroughly the parts with cotton and then applying your medicament. This latter is best done by ointments or powders. One of the best is a dram each of boric and salicylic acid to half an ounce of vaseline. This should be applied once a day, to be followed by insufflations of boric acid powder. With the subsidence of the symptoms the number of applications can be gradually decreased.

(*b*) *Polypi and Foreign Bodies.*—By the presence of such bodies as these the whole canal, through irritation, becomes congested, and with this hyperemic condition there is an increase of the glandular secretion in this part. The discharge is sometimes very copious, but differs from that which comes from the tympanic cavity in being more watery and whitish in appearance.

The only treatment in such cases as these is the removal of all the foreign and offending substances. Polypi are best removed with the cold wire snare and their base afterwards treated with chromic acid applications. If the growth

is too small for the snare, then a small ring curette can be used.

2. DISCHARGES ORIGINATING FROM AND DEPENDENT UPON PATHOLOGICAL CONDITIONS OF THE MIDDLE EAR OR ITS CONTIGUOUS CAVITIES.—Let us refresh ourselves for a moment with the anatomy of the parts. The tympanic cavity is situated within the hardest bone of the body, communicating with the throat through the Eustachian tube, with the antrum mastoideus through the aditus ad antrum, while its outer wall is limited by the membrana tympani. It is lined throughout by mucous membrane, being continuous with that of the communicating cavities, and is traversed by a chain of three small ossicles. Two of these ossicles, the malleus and incus, are in close contact with the inner surface of the drum membrane, while the greater portion of their heads and bodies are situated high up in the attic of the tympanum. It is these two ossicles which have taken such a prominent part for the last few years in producing chronic discharges which had remained incurable until the necrosed ossicles had been entirely removed. Every case of chronic middle ear discharge can trace its origin to an acute otitis media, but why some of these acute cases recover without any untoward result, while others leave their mark in the shape of a chronic discharge, are questions which have not been satisfactorily answered. Certain it is that the condition of the general system, the question of blood and lymphatic dyscrasia play an important rôle. We must also bear in mind the fact that a chronic discharge from the tympanic cavity can be either *simple* or *purulent* in character, and in this way greatly influencing us in our prognosis. For convenience sake I have classified chronic discharges from the middle ear as occurring (1) childhood, (2) adults.

1. CHILDHOOD—*Causes.* (*a*) Children in whom there is a scrofulous or syphilitic taint are the ones most liable to

chronic discharges from the ear, discharges from the nose, and to certain forms of ocular troubles, such as phlyctenular and interstitial keratitis. It is just in these cases that the systematic constitutional treatment produces its most beneficial results.

(*b*) The acute infectious and contagious diseases, especially scarlet fever and measles, are frequently followed by a chronic otorrhea as one of their sequelæ. In fact, statistics show that the majority of patients who suffer with a chronic discharge from the ear can trace its origin to an attack of measles or scarlet fever.

(*c*) Post-nasal adenoids, enlarged tonsils and chronic naso-pharyngeal catarrh are frequent causes and exciting agents in keeping up this condition through the connection of the middle ear and pharynx by means of the Eustachian tube.

2. ADULTS.—Most frequently can adult patients who suffer with chronic otorrhea from the tympanic cavity trace its origin to some period of their childhood. That the same factors which acted as causes in childhood may exist later in life is evident, but on account of the enlarging of the various parts and the greater power of resistance in the tissues of the adult, they are not so liable to the same disturbing influences. It is equally true that a certain amount of pathological conditions existing in the naso-pharynx in the way of adenoids, hypertrophies, chronic catarrh, etc., will not of themselves always answer as the cause for a chronic middle ear discharge, but we must look for some inherent condition existing in the middle ear itself as a cause for the persistency of the discharge. I have frequently seen all pathological conditions of the naso-pharynx relieved, and yet there would exist an occasional discharge from the ear. That there is a close relationship, however, existing between these parts all must admit, and he who ignores the nasal and nasopharyngeal morbid states will never make a successful otologist.

When a chronic catarrhal condition of the middle ear has existed for some time, the mucous membrane and its contiguous parts are apt to be transformed into such a pathological state as to be themselves the existing causes of the same. When we remember that, with the exception of the outer wall, the middle ear is a cavity inclosed in hard bone where the nutrition of its lining mucous membrane is very easily interfered with, we are not surprised at the pathological conditions which we often find. Among the first such must be mentioned granulations upon the mucous membrane, which as long as they exist will be a source for the production of a chronic discharge. Almost without exception in a chronic middle ear discharge there exists a perforation of the drum membrane through which the discharge escapes; otherwise its only exit would be through the aditus ad antrum, or through the thin plate of bone which separates the tympanum from the brain, a result, not as Shakespeare says, "devoutly to be wished." Now, with this secretion in the tympanum, it matters but little how bland it is, one readily sees what a ready entrance is afforded to the various micrococci which will convert it into a purulent form.

Next in frequency must be mentioned polypi springing from the mucous membrane of the middle ear. These abnormal growths may be so small as to resemble granulations, while at other times so large as to protrude from the external auditory meatus. Most usually they are of the mucous type, but are by no means limited to one variety.

Finally comes a cause which of late has been recognized by otologists as playing such a prominent part in persistent purulent discharges from the tympanic cavity. This consists in a necrosis of some part of the bony walls of the tympanum, or of the chain of ossicles traversing the same.

Treatment.—Painstaking research into the history of every case; the correlation and comparison of all phenomena; a

thorough knowledge of the normal and abnormal appearances of the parts, coupled with a sufficient amount of clinical experience—these are necessary for the successful treatment of all ear diseases. Though but an atom in size compared with the whole human frame, yet the field of otology is broadening every day, while the literature upon this one organ alone would yearly fill an ordinary case. Certainly there is no brighter outlook for the last three years in all the realm of medicine than is shown in the advances made in the surgery of the middle ear. While there may be extremists (but they exist everywhere), yet with the conservatism which is being manifested and the large amount of clinical experience which is being added daily to the literature of the subject, we may yet hope for more brilliant results. Every pathological condition must have its cause, and though we may not always be able to trace the same, yet it is our duty and own professional gain to go thoroughly into the history of every case, that we may determine, if possible, its *fons originis*. For instance, the large majority of children who suffer with a chronic otorrhea are also afflicted with some constitutional dyscrasia; hence it is only by the combination of the internal and topical applications that we can hope to bring about the most satisfactory results. It is not my purpose in this paper to treat of the internal medication, for that can properly be left to the good judgment of every physician, but rather to go more into the local management of these chronic discharges from the middle ear. Were I limited to one word as the foundation stone for the successful treatment of this class of diseases, it would be that of *cleanliness*. Every secretion which remains blocked up in any cavity is a continual source of irritation and the cause of other pathological changes, hence, for this reason, it should always be removed.

The treatment adhered to in children and adults differs but little, save that in the former the parts are more delicate,

smaller and, in some degree, less accessible. Whenever the discharge is active and very profuse, especially in children, the secretion must be frequently removed by syringing the ear with some antiseptic solution. The best in my hands has been a saturated solution of boracic acid. In very young children have the parent or nurse use a soft rubber Davidson's ear syringe, and in this way the parts will not be injured should the child grow obstreperous. The physician himself should see the patient every other day, directing the nurse not to syringe the ear before coming to the office, in order that he may see any changes in the character and amount of the discharge. Having cleansed the ear out himself thoroughly by syringing, the physician should dry the parts with cotton. If now there exists a good sized perforation in the drum membrane, the middle ear should be thoroughly inspected. In young babies this is very difficult, so that frequently one has to be content with the following procedure, which so far has been eminently satisfactory: After syringing and drying the parts, the external canal is filled with pure listerine and allowed to remain for five minutes, when the parts are again thoroughly dried with cotton. The deep portion of the canal is now thoroughly insufflated with powdered boracic acid, the canal packed with iodoform gauze, its inner extremity having been dipped into iodo-carbolized glycerine, while its outer extremity is left accessible for removal by the nurse. The nurse is instructed to remove this packing as soon as it becomes saturated with the discharge, and again to commence using the frequent syringings with the boric acid solution.

This method of treatment is repeated every other day at first, and then at longer intervals. Having treated a number of chronic otorrheas in children and babies, by the procedure as above stated, I have found it by far the most successful in the large majority of cases. In adults the parts are more accessible, and likewise the pathological changes

found more multiform. With this class of patients I find that the daily treatment, if possible, by the physician himself is much more successful, and likewise the time much shortened, than by allowing the patient to carry on the treatment at home, which, in the large majority of cases, is very unsatisfactory. If the perforation is large and in the lower half of the drum, the line of treatment as recommended in children, can be successfully used in these cases. Frequently, however, the perforation exists in the upper part of the drum and is very small in size. In such cases it is usually found that the discharge comes from the attic of the middle ear, and for the successful removal of the same the solution must be introduced by means of a syringe or pipette of very slender and delicate proportions through the small opening in the drum. As a usual rule, when there has been a discharge for years, the whole or the greater part of the drum membrane is entirely destroyed. In such cases there exists usually some pathological condition of the mucous membrane of the middle ear, or some necrosis of the bony frame-work. Red, papillary granulations most frequently exist. These must be removed before you can hope to cure the discharge, as likewise polypi, which, as a rule, are only overgrowth of the granulations. The best way to remove the former is by curetting, and the latter either by the cold snare or the ring curette. With the removal of these pathological growths the middle ear must be continually treated with the antiseptic powders, combined with the tamponing of the auditory canal with iodo-carbolized gauze. If, as frequently happens, the patient is of such a neurotic temperament that instrumental manipulation in the ear is out of the question, then we may use what is termed the "alcohol treatment," instituted and highly recommended by Professor Politzer, of Vienna. This consists in the instillation of absolute alcohol into the middle ear, allowing it to remain for ten minutes at a time, to be

repeated, at first, two or three times daily, and gradually diminished. At first the patient may not be able to endure more than a fifty per cent. solution, but this can be gradually increased until the full strength will be easily borne. I have seen most excellent results from this method of treatment, granulations disappear, polypi shrivel up and the whole ear reaches a healthy state.

Finally, comes a cause which of late has been found to play such a prominent part in keeping up a chronic discharge that has not yielded to the ordinary methods of treatment. This pathological condition is found to consist in a necrosis of some of the ossicles or bony walls of the middle ear, which, as long as it exists, will ever remain an exciting cause. Necrosis has been found most frequently in some portion of the malleus or incus, and since the greater part of these ossicles lie in the attic of the tympanum, one more readily suspects such a pathological condition when the discharge comes through a small perforation in the upper part of the drum. The diagnosis of necrotic bone is ascertained by means of the probe, and when such is discovered, there is but one course to pursue, and that is the radical operation of thorough removal.

My paper has already reached a sufficient length to warrant me in not extending it further by going into the technique of the operation. At some later date I hope to publish my views upon the excision of the ossicles for both chronic otorrhea and for the relief of deafness.

DISCUSSION ON DR. ROY'S PAPER.

Dr. P. R. Cortelyou: I am very much pleased with the paper that has just been read by Dr. Roy. I feel that the matter of discharges from the ear is one that is much neglected by a great many practitioners, especially physicians in the country and the smaller towns. I think a very large amount of deafness is due to the neglect of early

treatment in these cases. Children complain of pain in the ear; we pass it by as a mere cold, as it goes on there is a discharge, and eventually we have injury to the drum membrane. I have a case now of a child under my care, coming from ten miles in the country, who has a discharge from both ears which has been going on for two years, with the result of entire destruction of both drum membranes. If the case had been attended to at the outset the present condition might have been prevented.

Dr. R. O. Cotter: The paper we have just heard read by Dr. Roy is a most admirable one. It has covered the ground pretty thoroughly, but it might be well to impress upon general practitioners the importance of an early recognition of causes of earache, as they are the first to see them. In primary acute otitis media, or inflammation of the middle ear, if the patient is promptly put under the influence of opium, a great many of those cases that go on to suppuration would be checked without further trouble. But they go on to suppuration, and we have to treat them.

As a matter of course, the sheet-anchor in the treatment is boric acid. A great many cases of chronic inflammation of the middle ear are overlooked, when a little examination will reveal the presence of a small polypus which should be treated as Dr. Roy has suggested. In those children who are not in the habit of having earaches, if they are carefully examined, there will be found intranasal obstructions that require treatment.

The treatment of ear diseases for sixteen hundred years was the darkest chapter in medicine, but as Dr. Roy says, within the last half dozen years no science has made more rapid progress.

AN OPERATION FOR HEMORRHOIDS.

BY ROBT. H. TAYLOR, M.D., GRIFFIN.

So much has been written and so many operations proposed as a radical cure for hemorrhoids, that I approach the subject with diffidence. However, my paper will be short and only suggestive.

After preparing the patient for operation in the usual way, fix the hemorrhoid with vulcellum forceps or a stout tenaculum, which is firmly held by an assistant. Instead of cutting a groove around the base of the pile for your ligature in the usual way, make an elliptical incision through the mucous membrane, including the hemorrhoid in the ellipsis. Turn back a small flap of mucous membrane from the base of the tumor. Now have the assistant make firm traction on the pile while you pass a double ligature of stout chromacized catgut through the pedicle, which may be much reduced in size in some instances by separating it from the muscular coat of the bowel from below upward. Firmly secure the ligature and cut away the tumor as close to the ligature as possible, only leaving enough stump to safely prevent slipping of the ligature. Then close the flaps over the ligated stump with a suture of the chromacized catgut. This leaves you with a closed wound which, if aseptic, will practically heal in four days.

The advantages gained by this method are that you do not leave an open wound subject to infection soon after operation. Then the chances for secondary hemorrhage are almost wholly provided against, as the mucous mem-

branes will heal over the stump before the ligature has time to be absorbed. Furthermore there is no danger of a motion from the bowels causing the ligature to slip away prematurely, and thus set up hemorrhage. Then the period of convalescence is much shortened. It may at first appear that the period of convalescence would be prolonged by the time necessary for the absorption of the stump and ligatures. This idea was suggested to me by my friend, Dr. K. P. Moore, of Macon, Ga., who did the first operation after my suggestion of this plan, but it will not be necessary for the absorption to be complete before the patient can be allowed to go about. So soon as the union of the mucous membrane is good he can move about with comfort, and the bowels move without pain. Practically then the convalescence is shortened. Now if a more extended trial fully sustains the assumption that by this method of operating we can diminish the risk of septic infection, diminish the risk of secondary hemorrhage, and shorten the period of convalescence, it will be an advance in the management of such cases. I have recently seen a clipping in one of my journals from some English publication where Robert Jones, of Liverpool, proposes closing the wound after operating for hemorrhoids. He uses the clamp just as in the ordinary clamp and cautery operation, but instead of cauterizing the stump he simply closes it with a continuous suture of catgut.

DISCUSSION OF DR. TAYLOR'S PAPER.

Dr. J. W. Hallum, Carrollton: Being an advocate of a different mode of treatment of hemorrhoids, I have for a great many years resorted to the hypodermic injection of carbolic acid in pile tumors. By that method I do not have my patient confined to bed, nor do I administer an anesthetic. I have used the hypodermic injection very nearly a thousand times in the last twelve years, and I have

not had an accident. I have resorted to this treatment without having a slough, or without secondary hemorrhage.

About the first writer I ever read on this subject was Dr. Kelsey, of New York, after he had cured his first three hundred cases by hypodermic injections of carbolic acid. At this time he wrote an article, and it was pulished in the "Reference Hand-book of the Medical Sciences" over his own signature, that by it any case of hemorrhoids might be cured, he had no doubt, and the treatment was applicable to both internal and external, blind or bleeding, as you may denominate them, or of long or short standing. I see no reason why the patient should be confined to bed four or five days, and why an anesthetic should be administered in treating such a simple thing as a case of hemorrhoids.

Dr. R. M. Harbin, of Calhoun: I would like to mention a case along the line of injection of pile tumors with carbolic acid. A patient of mine would not submit to an operation. He came to Atlanta and put himself under the treatment of a quack physician who guaranteed a cure for twenty-five dollars. This was about two years ago, and I have been interested in the case since that time. He is troubled more than he ever was at present. The pile tumors have returned, proving that the results following carbolic acid are frequently unsatisfactory.

DRAINAGE IN PELVIC SURGERY—THE USE OF THE SIPHON PUMP IN CONJUNCTION WITH CAPILLARITY.

BY WM. B. GILMER, M.D., MACON.

In calling your attention to drainage in pelvic surgery, I do so with the intention of considering the subject only so far as will tend to make clear and commend to you an idea of my own.

When surgical work is done in the pelvic cavity, the desirability of allowing the free escape of deleterious discharges obtains, as regards the tissues involved, as it does upon the surface of the body; but there is this difference, when we have opened the abdomen and thereby laid bare the field of operation, we have to work at the bottom of a cavity lined by a serous membrane of vast extent, rapidly absorbent and relatively intolerant. So here we have not only the ordinary surgical problem but another. In most cases, where the exudation of serum, pus or blood is poured out upon a mucous or cutaneous surface, there would be no necessity for drainage. The discharges are absorbed by the dressings. When we remove a tumor separating adhesions, enucleate a pyosalpinx or open an abscess cavity, the same exudates are formed and the same changes occur as if these operations were done in a locality adjacent to a mucous or cutaneous surface. In the abdominal cavity, however, the intestines cover the wound, and in fact form the dressing. By capillary attraction, the discharge is distributed over a wide area, and the abundant vascular and lymphatic supply of the peritoneum aids its absorption.

The danger in many cases is not the gravity of the operation done in the pelvis, but the exposure of the peritoneum to the action of an irritating or infectious discharge. This difficulty is met in practice by work in two directions; on the one hand, by efforts to diminish the amount of the exudation by careful hemostasis, by covering raw surfaces with peritoneal flaps and by strict regard to asepsis to prevent infection; on the other, by efforts to increase the absorptive power of the peritoneum, and to cause the removal of the discharges by means of drainage.

We have now in common use two kinds of drains, the glass tube devised by Koeberle, and modified by Keith, and the capillary drain of gauze introduced by Mikulicz. Is the drainage secured by either of these methods perfect, or can they be improved? Before answering this question, let us study the conditions present in the peritoneal cavity after an operation where there is a free secretion of a serous discharge mixed with a moderate quantity of blood and a glass drainage-tube has been placed in position. So far as I have been able to learn from the literature of the subject, the general conception of what takes place is as follows. The discharge is poured out and sinks to the lowest part of the pelvis, forming a small pool, and rises in the tube to a corresponding extent. We pump out the tube with a long nozzled syringe at longer or shorter intervals and believe that this is the whole story. But, it is not. Lying in contact with the pool of bloody serum are the intestines, forming by the near apposition of their peritoneal surfaces capillary planes, between which the liquid rises to a height inversely proportional to the distance which separates them. As they are very close together, this height is considerable, besides there is no limit to the linear extension. So in addition to the collection of serum in the lowest part of the pelvic cavity, there is an attenuated layer of indefinite extent enveloping the intestines. Nor is this all. Absorp-

tion by the serous membrane is constantly and rapidly going on, and the loss at peripheral parts is continually being supplied by fluid coming from the center. In this way, there are developed currents starting from the pelvis and setting upwards and outwards, and if pyogenic germs are present in the pelvis they are borne along with the serum and distributed widely over the peritoneum. When the tube is pumped out, the layer covering the intestines is removed in great part, because cohesion of the fluid is stronger than the attraction of the surfaces, but it immediately begins to reform before any collection occurs in the tube, because the pool at the bottom of the pelvis represents the discharge produced in excess of the peritoneal absorption. So, in spite of our drainage the peritoneum is still the absorbent dressing of our wound. All we do is to remove some of the discharge, and the peritoneum must do the rest.

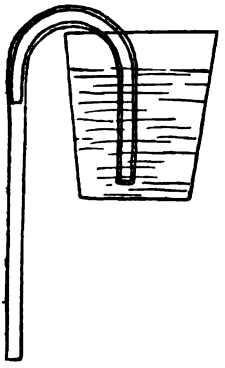
The same reasoning applies when we use the Mikulicz drain, although the drainage is continuous and not intermittent as is the case with the glass tube. For, here we have two systems of capillary drainage in operation, the gauze and the peritoneum, and the peritoneal has the advantage because the fluid does not need to be raised to the same height.

In one way or another, however, the abundant serous exudate, which acts both as a culture medium and a vehicle for the distribution of germs, must be removed. Drainage, therefore, by either of the existing methods is not perfect. From our standpoint, ideal drainage must supersede, not feebly supplement, the absorptive power of the peritoneum, or what might be appropriately called natural drainage. When we can do this, as far as the discharges are concerned, we bring our field of operation to the surface of the body, and an important element of danger will be overcome.

Six years ago, shortly after the completion of my term of

service as an interne in the Woman's Hospital, New York City, I was engaged in assisting Dr. Nathan Bozeman in the preparation for publication of a description of some of his inventions. In this way I became interested in his drainage instruments for urinary fistula. They consisted of modified tubes, and in some cases worked well and in other cases they did not. In the hope of devising a more satisfactory drain for carrying off the urine from the vagina, I began a series of laboratory experiments which led to the invention of the siphon pump. In the spring of 1889 I published in the *Atlanta Medical and Surgical Journal* an article entitled "A New Pump and its Uses in Medicine," describing these experiments and the pump.

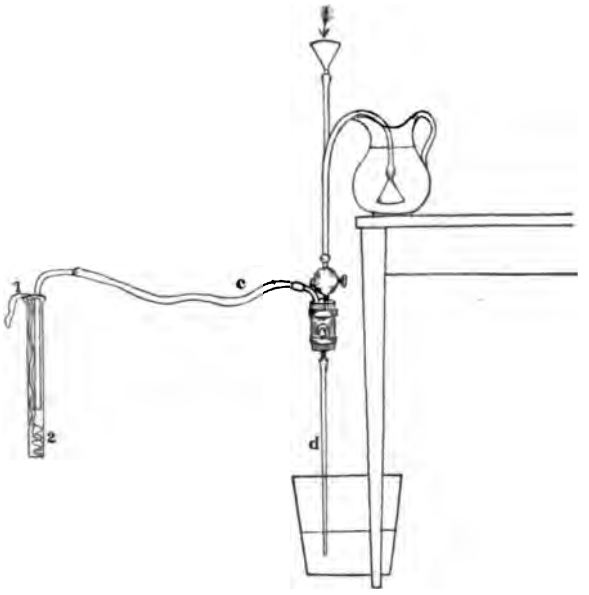
While referring you to the original paper for details, I will show one of the experiments, because it helps to illustrate and explain the subject which we have now in hand. Recognizing capillarity as a force adapted to the purpose of collecting the urine, but finding that it could not be conveniently made to do so in sufficient quantity to keep pace with the secretion of the kidneys, I conceived the idea of combining in the same instrument the power of capillarity and that of the siphon. In the following experiment this is done. A small short tube is put inside of a longer and larger one. The system of tubes thus formed is placed in a glass nearly full of water and one end is allowed to hang down forming a siphon (as shown in the diagram). In virtue of the capillary attraction between the surface of the tubes the water rises until it passes over the edge of the glass and issues slowly from the extremity of the tube, drop by drop. These drops, descending through the tube like minute pistons, gradually expel the



air; a partial vacuum is produced; the siphon starts and the glass is quickly emptied. Pursuing in this way the study of the capillarity and the properties of the siphon, I finally devised the pump which I show you. It consists essentially of two siphons. The upper one supplies a sufficient quantity of water, which can be accurately regulated by means of a stopcock, to keep the lower one in operation, and only a very moderate quantity is needed. We have, therefore, a siphon which is continuously and automatically started and pumps air as well as water.

We possess in the pump a simple, convenient, constant and amply powerful means of exerting suction. But how is it to be used for purposes of drainage? If we carry the exhaust tube down to the bottom of the cavity, apart from the danger of doing harm, the suction will draw the tissues into the mouth of the tube, close the opening and defeat the end in view. The answer carries us back to our mysterious friend, capillary attraction. Place a narrow piece of gauze several layers in thickness in a drinking glass, allowing one end to dip down to the bottom and the other to hang over the edge in the manner I show you, and then partly fill the vessel with water. If now the extremity of the glass exhaust tube of the pump be pressed against the gauze half an inch or more above the level of the water, the fluid will be quickly drawn into the tube and the glass will be rapidly emptied. Moreover, if the action of the pump be continued, the gauze will soon become practically dry. This experiment is so important that we must stop to study what takes place within the gauze. The gauze consists of many minute intercommunicating spaces forming capillary tubes arranged in planes both vertical and horizontal. In virtue of capillarity, these tubes become full of water. When the exhaust tube of the pump is placed in contact with the gauze, a partial vacuum is produced, and the water it contains is drawn into the tube.

The loss is quickly supplied by fluid rushing in from more distant parts to take its place. The capillary tubes in fact become a continuation of the exhaust tube. There is this difference however, when the supply of water in the gauze is not sufficiently abundant to keep pace with the pump, the suction increases and air is drawn through the gauze. It will therefore be seen that the force of the suction exerted by the pump can never exceed the resistance



afforded by two or three layers of gauze to the passage of air, a force so light as not to be injurious to the most delicate tissues, and, besides, this force is exerted upon the gauze and not upon the tissues.

The manner in which I used the pump can readily be understood from what has been said. All that is required is an ordinary Keith's drain, a piece of glass tubing about one-eighth of an inch in its internal diameter, bent as shown in the figure, some long narrow strips of iodoform

gauze and a pump. The drainage-tube is placed in position at the time of the operation, and after the patient has been put to bed, a strip of the gauze is placed in the tube and loosely packed in the bottom so as to form a layer one-third or half an inch in thickness, care being taken to keep one end of the strip at the upper extremity of the tube so that the gauze can be readily removed. The bent glass tube, which is also a convenient instrument for adjusting the gauze, is now passed down to the bottom of the drain so as to press closely against the gauze. The tube is now connected with the exhaust pipe of the pump, which is kept constantly working beside the bed. The whole is covered with a layer of absorbent cotton, and the binder adjusted. The strip of gauze should be removed at intervals of one or two hours when there is much blood in the discharge, because the pores are apt to become clogged up.

That the efficiency of the drain is wonderfully increased and that the serous discharge is removed as fast as it is formed is a matter of simple demonstration, but while overcoming some of the difficulties of the problem have we introduced any new elements of danger? I think not. No harm can certainly come from the introduction into the drain of a strip of iodoform gauze and a straight glass tube, which can be rendered perfectly aseptic. It is true that a

current of air is drawn through the apparatus, but it is filtered by the cotton dressing and does not come in contact with the tissues, but only with the surface of the gauze.

At the present time I am unable to furnish any statistical arguments to enforce what I have said. Time and experience in the hands of others alone can make these of any value. As yet, I have employed this method of drainage in only one case, but as far as it is possible to judge from one case, the result was very satisfactory. The case in itself being of interest, I will briefly relate it.

A CASE OF SUPRAVAGINAL HYSTERECTOMY FOR A LARGE FIBROCYSTIC TUMOR COMPLICATED BY MANY ADHESIONS — RECOVERY FROM THE OPERATION — OCCURRENCE OF ACUTE STRANGULATION OF THE INTESTINE FROM BANDS ON THE FIFTY-EIGHTH DAY, FOLLOWED BY DEATH ON THE SIXTY-FOURTH.

Autopsy.—Fanny Peters, colored, laundress, aged forty-two, married, nullipara, applied to me for treatment May 3, 1893. She said that she had had a tumor for ten or twelve years, but that it had increased in size very rapidly during the past two. She also gave a history of several attacks of peritonitis which confined her to her bed for months, and complained of pain from distention of the abdomen and pressure on the rectum, bladder and diaphragm.

Examination showed a fluctuating tumor of great size.

Operation May 22; present and assisting, Drs. Holt, McHatton, Williams, Derry and Barron. When the abdomen was opened and a large quantity of clear watery fluid drawn off, the sac was found to have very thick walls and to be continuous below with a large fibrous mass springing from the uterus. On the anterior surface of the tumor were many thread-like adhesions which were readily separated, but above and posteriorly the adhesions were almost complete. After a tedious dissectien partly with the fingers, sometimes with a knife, laying bare many square

inches of the intestine and involving the handling of the common iliac vessels, I managed to separate the tumor down to a point a little below the brim of the pelvis. I then desisted. What remained of the sac was stitched to the abdominal wall and packed with iodoform gauze. The solid portion of the tumor was ligated with a rubber ligature, supported by knitting needles and fastened in the womb, the wound closed, a Keith's drain introduced into the abdominal cavity, and after the patient had been put to bed the strip of gauze and glass tube connected with the pump were placed in position in the manner already described. During the first forty-eight hours, a very considerable quantity of bloody serum was removed. At the end of this time the use of pump was discontinued, owing to the cessation of the discharge. During the first two weeks the patient had a fever ranging from 99.5° to 102° due to absorption from the discharge from the sac and the stump, but there were no symptoms of peritonitis. After this time the temperature gradually declined to normal, the patient gained appetite, flesh and strength, and was able to sit up and go around the house. On the fifty-eighth day after the operation, following a large and indigestible meal, the patient was seized with vomiting and severe pain in the abdomen. I found her an hour later in a condition of profound shock. On the third day, although the vomiting never became stercoraceous, I was convinced of the diagnosis of complete obstruction of the bowel, but soon afterwards the pulse became so weak that it was thought best not to do any operation. Death occurred on the sixty-fourth day.

The autopsy disclosed the following conditions: Complete occlusion and collapse of the small intestine below a point about three feet above the ileo-cecal valve, caused by the entrance of two loops of intestine into a narrow opening formed by a band extending from the mesentery to the free surface of intestine. There were a number of these bands

present even as high up as the diaphragm, and it was evident that they had nothing to do with the operation, but were the result of old attacks of peritonitis of which the patient had had several.

In conclusion, I would like to add that in regard to the instruments described, if only they will excite sufficient interest among the profession, I invite modification and improvement. I wish mainly to impress upon you the principles which underlie them. They are those of the continuously acting siphon, which pumps air as well as water, and the employment of the suction force thus generated for the purpose of draining fluids from dependent localities in conjunction with capillarity in the manner described.

DISCUSSION ON DR. GILMER'S PAPER.

Dr. Richard Douglas, of Nashville, Tenn.: I desire to say a few words in regard to the excellent paper of Dr. Gilmer. I very much regret that the gentleman had so few to hear his paper. One of the greatest aims in every man's life is to leave an original idea, or something new behind him. Every abdominal surgeon of to-day has battled with the problem of drainage, and one of the greatest difficulties and sources of danger that we have to contend with is contamination of our drainage-tube by careless, inefficient nurses. We cannot always be on hand to give them the requisite attention, and unfortunately nurses do not appreciate the principles of asepsis. Aside from the points that the author of the paper emphasized so well, continuous drainage and keeping down the accumulation in the pelvis is what we desire, and as yet there has not been anything devised to accomplish that end. All of this apparatus is outside of the abdomen, it is exceedingly simple and a new equipment can be had for each case. It is therefore very suitable and I think will be used a good deal. I am so much impressed with it that I propose to use it in the next

pus case I have. The practice is to cleanse the drainage-tube from every half hour to every hour, according to the indications in the case after a section. If the doctor's apparatus is employed for six or eight hours it will provide all the drainage that is necessary. I congratulate him upon the excellence of his device, and I think it will have a place in surgery.

Dr. J. H. Horsley: It has occurred to me that the device of Dr. Gilmer will be useful in another way than the one that has been mentioned. Recently the operation of suprapubic cystotomy is getting to be quite a fashion, leaving the open wound constantly discharging urine all over the patient and the bed. It seems to me with this apparatus the patient can be kept constantly clean. I have recently had an operation of this kind in which we had the greatest difficulty and inconvenience to keep the patient clean, and I think this device would have obviated any trouble in that line.

CASTRATION FOR RAPE.

BY J. G. HOPKINS, M.D., THOMASVILLE.

Rape is a crime. Crime, in its psychical aspect, is one of the most distracting and unfathomable subjects with which the mind of man has ever been called upon to grapple. Much is being written upon the subject nowadays, but no definite conclusions have been reached with regard to its cause or prevention, nor do I know that such shall ever be.

Crime consists of a violation of law, with a knowledge of the fact that the act is a violation. This knowledge carries with it responsibility, without which there can be no crime. The commission of crime is a physical act, the function of matter prompted by the action of mind. But what is mind? If this question could be definitely answered, we might reach definite conclusions and plans of prevention.

Insanity does not depend upon diseased matter, so far as man has yet been able to determine. We conclude that the disease, I mean insanity in its manifold sense, depends upon a perversion of what we call mind, and here we stop. Insanity is described as that condition in which passion rules over reason. Viewing criminals from this standpoint, they are all insane, for surely no person subjected to even partial civilization and with mental capacity above the driveling idiot could commit crime without permitting passion to rule over reason. Unless insane, the knowledge of possible punishment here on earth, or that inward moni-

tor born of God, and found with every man, would suggest the criminality of his act, and if he did not desist, passion would rule over reason. We recognize insanity from physical manifestations. These manifestations, varying widely, give rise to various terms expressive of peculiar forms of insanity. For instance, Sadism, named for that notorious monster, the Marquis of Sade, who himself suffered from this disease. It consists of an unnatural desire to punish and mutilate the subject of lust, often even unto death. Jack the Ripper and the original White Caps evidently suffered from this disease. It exists in all countries, and is found alike in the educated and uneducated of all races. Some of the criminal assaults made upon females are committed by persons laboring under this disease. But this will not account for them all. There is a subtle, deep-dyed, devilish hatred for the white race ground hard into the brains of the black man which prompts this demonish act on the part of many. They are willing to surrender their lives for the satisfaction of dragging even one white person into the depths of humiliation and regret by robbing them of that which is dearer than life.

In most cases rape is committed in this country by ignorant negroes, and if not insane, it is because of their unenlightened condition. These creatures have not sufficient enlightenment to appreciate the enormity of crime or to raise them above a standard of brutism.

Education elevates the scale of humanity, raising one higher and higher above the lower order of animals.

With education comes moral strength to withstand unnatural promptings, and human reason is enabled to control animal instincts.

Plainly the remedy for future prevention is education, and it should come through free schools and compulsory learning. But what of present needs? The perpetrators of this the most atrocious of all crimes should be castrated im-

mediately, whether Sadism exists or not. This would effectually prevent the reproduction of his kind, for there is nothing more certain than the fact that we inherit peculiar mental characteristics as well as physical conditions. Close investigation in every case should be made. Should Sadism be established, the subject should be liberated, for a valuable remedy will have been applied. Should no disease exist, some brand of emasculation for crime should be applied. This would, in my judgment, do more to humiliate the beast and prevent the crime on the part of others than anything else which may be done. It seems sufficiently proven that lynching does not stop it, nor will hanging by law prevent it. The gallows seems to secure a certain notoriety, melancholic though it be, for which many a negro seems willing to die. Death to a negro has no sting. I have never seen one who feared to die, for he goes straight to Heaven (?) no matter what his history may be.

SURGICAL SHOCK.

BY RICHARD DOUGLAS, M.D., NASHVILLE, TENN.

Dr. Westmoreland has courteously insisted that I should occupy the time allotted to him with some remarks upon any subject of my selection. I regret his great hospitality deprives the Association of the pleasure of hearing his interesting paper, and, that it shall not entirely go by default, I shall in a few imperfect remarks address myself to his subject, which he will, of course, elaborate.

Surgical shock is the subject of the greatest possible interest to us all. It is not one of those subjects that unfortunately is brought into the proceedings of a general body like this, and is only of interest to a few. The specialist sometimes, in his presumption and egotism (I can say this, for I happen to be that sort of a fellow myself), assumes that the general audience is interested in his particular fad or theme. This paper, however, of Dr. Westmoreland's commands the interest of all. Shock, as the surgeon meets with it and considers it, is due to excessive or overstimulation of the sensory nerves. There are so many factors as casual elements, it is often difficult to designate the special condition or circumstance giving rise to it. The injury itself to the vital tissues, the loss of blood, the circumstances attending surgical operation and mental impressions, all enter as causes. Profound shock, such as the surgeon is called upon to relieve, is a familiar picture to you all. You at once recognize it in the compressible and intermittent pulse, the hurried thoracic respiration or the deep sigh, the

relaxed condition of the general muscular system, the profuse diaphoresis, the pinched countenance, the collapse of the curve of the lips, and the voluntary escape of urine and feces. It is important that we should differentiate this condition from concealed hemorrhage, and in surgery of the abdomen especially should we ever bear in mind that the so-called secondary shock is in reality but a symptom of internal hemorrhage due to imperfect surgery. Memory of one of my early cases haunts me still. The surgeon is sometimes called upon to relieve shock, but more frequently to prevent it. I was much impressed with the words of our eloquent orator, Dr. Benedict, when he said this morning there was much in mental impression. I believe there is much in impressing the patient with confidence in you. So deport yourself that the patient may feel that his trust is well founded. If the patient is thoroughly imbued with the idea that the operation is the last of him, and that the surgeon has small hopes of his recovery, such patient is sure to sustain the full measure of shock. The manner of administering the anesthetic greatly influences shock. I think it wise to precede the administration of ether with the hypodermatic injection of morphia and atropia. I am one of those who believe in the minimum amount of ether that is necessary. I am fully aware that some surgeons use half a pound to a pound of ether during an ordinary operation, completely waterlogging their patient with it. I carry the patient under ether slowly, not forced nor strangulated nor drowned with it. The temperature of the operating room should be about 75°—a little uncomfortable, I grant you, for the surgeon, but better for the patient. With the introduction of the practice of aseptic surgery, it was quite the fashion for the surgeon to cover the patient with towels saturated with bichloride water. I know of no measure so deleterious to the patient—no step in the technique so certain to favor shock as this. You can accom-

plish all you wish with dry sterilized towels. The wet ones ruin the instruments, irritate the skin, and in cooling chill your patient. By the careful administration of the anesthetic, by securing the proper temperature for the operating room, by keeping the patient dry and warm, with the extremities well wrapped in blankets, I think we may in a great measure prevent shock. Whether the operation be one in general or special surgery, it should be expeditiously performed. While I deprecate hurried and incomplete methods, I think the habit of many surgeons, who stand and leisurely wash their hands to demonstrate the technique to students, is to be strongly condemned. The patient should receive the absolute and undivided attention of the operator. "Chronic surgery"—that is, unnecessarily prolonged operations—is responsible oftentimes for shock. Unavoidable hemorrhage may be the cause of shock; if so, we should take means to restore the patient at once. Sufficient attention has not been given to intra-arterial injections to overcome the acute anemia at the time of operation. This is particularly valuable in railroad surgery. The three most important agents that we possess to overcome shock are, first, if due to hemorrhage, injections of saline solutions directly into femoral artery; high rectal injections of hot saline solutions; if due simply to sensory disturbance, strychnine, digitalis and atropia are our remedies.

In regard to the propriety of operating when the patient is under shock, I do not know that this phase of the subject is within the province of this discussion. Railway surgeons have to contend with that more than any of us. It is the habit of some gentlemen to lop off limbs as fast as they can get them in order to secure a better fee. I know, gentlemen, that this is so, and the practice should be deprecated. In the cases of mutilation of the limb, it appears to me it is altogether unnecessary to do anything except to provide against the occurrence of hemorrhage, protect the limb and

endeavor to prevent decomposition and infection and wait for reaction. If the patient does not react, he would have died anyway, and surgery would have received the opprobrium.

One more word and I have done. In abdominal operations there is one condition that often occurs, namely a condition of profound nausea attended by shock. In that condition I have employed with the most satisfactory results two measures, namely: high rectal injection and irrigation of the stomach. In such cases I have washed out the stomach and resorted to rectal injections, and have always found that this method is productive of more good and quicker stimulation than any other.

I thank the Association for the courtesy it has extended to me, and wish to say this: standing here as I do, at the feet of the Nestor of Southern surgery—a man whose work has made for him and your State an everlasting name (I refer to Dr. Gaston), I think it is the height of presumption that I should further trespass upon your time.

Dr. Gaston: In thanking Dr. Douglas for the courteous notice of myself, I scarcely feel that I am entitled to this recognition among my colleagues around me, and in appreciation of the sentiments and views which he has expressed on the subject of shock, I desire to say that I regard it, as he stated at the outset, as one of the most important and far-reaching subjects that can occupy the attention of both surgeon and physician. I am sorry the circumstances under which we are surrounded just now preclude my saying anything further on the subject.

A CASE OF GONORRHEA IN THE FEMALE.

BY R. J. NUNN, M.D., SAVANNAH.

The subject of this history was referred to me by a general practitioner for an obscure and troublesome condition of the rectum. She was a nullipara, unmarried, aged about eighteen, and complained of a continual burning pain in the rectum, all the discharges from which were more or less purulent, and if solid were coated with pus. There was also an annoying tenesmus.

These symptoms had existed for several days before her visit to me, three days before which she began to complain of ardor urinæ, followed in two days by a vaginal discharge, which the girl called whites. There was no constitutional disturbance, but the facial expression of the patient showed marked evidence of suffering.

Here was a most unusual train of symptoms to deal with, but after revolving the matter in my mind, and recalling some former experiences in the same line, the conclusion forced itself upon me that the case was one of gonorrhea, although the social position of the patient was such that her regular medical attendant had not conceived it possible.

A careful physical examination of the patient and the secretions confirmed the opinion already formed, and the patient acknowledged the probable accuracy of the diagnosis, giving a date three weeks anterior to her visit to me as the only possible time for inoculation.

The physical examination of the patient revealed a high state of inflammation of the mucous membrane of the rec-

tum, vagina and urethra. There was, moreover, considerable endocervitis, with erosions of the os and ectropium of the endocervium. Certainly the disease had invaded the cervical endometrium; probably soon would, if it had not already extended into the body of the uterus, and might be expected to show evidences of its presence in the fallopian tubes.

The exact state of affairs at the time and the prognosis were given to the patient, and treatment began with the result that the condition of all accessible parts was ameliorated, and the more painful and annoying symptoms disappeared; but in a month the case developed an intense peritonitis and salpingitis, accompanied with a copious purulent discharge from the os, from which she made a good recovery in ten days.

The treatment followed was copious aseptic injections and douches, followed by injections of petrolatum liquidum into the rectum and urethra. The vagina was washed with petrolatum through a speculum, and tampons saturated with it were inserted and changed daily.

The endometrium was treated with tents of cocoa butter. The progress of the case was satisfactory as far as all accessible parts were concerned, but the condition of the adnexa must remain in doubt.

It was especially interesting to observe the rapid relief of the rectal symptoms which followed the injection of a couple of ounces of petrolatum, and continued from twelve to eighteen hours.

The point of interest in this history is the mode of accession, the disease first manifesting itself in the rectum, and its subsequent extension to the urethra, and lastly to the vagina.

I can recall no similar case in the literature of the disease. Indeed, the implication of the rectum is exceedingly

rare, except in cases of direct inoculation, which I have been assured, and have reason to believe, was not the case in this instance.

Therapeutically, the interesting feature of the case is the treatment of it by oleaginous applications.

THE EXTRACTION OF CLEAR LENSES FOR MYOPIA. REPORT OF FIVE CASES.

BY H. E. STAFFORD, M.D., NEW YORK.

Through the courtesy of several of your members I am invited to read a paper before you.

Not having had sufficient time to prepare an extensive article, I thought the report of five operations for myopia might prove interesting.

Previous to describing the operations, I will relate the circumstances which led me to believe that the extraction of the lens, whether clear or not, would arrest the progress of myopia.

Some years ago I had a case of incipient cataract of both eyes in a woman about thirty-two years old. The opacity at that time was not extensive enough to prevent a fair examination of the fundus.

The ophthalmoscope showed large posterior ectasia, fluid vitreous, floating opacities, about twenty dioptries of myopia in the right eye, and eighteen dioptries in the left.

Glasses of the accepted strength which, if I remember rightly, were twenty and eighteen D., were prescribed and improved the vision very much.

Patient returned in about ten months, with almost complete opacity of the lenses. I was entreated by the patient to remove the lens from the worst eye. I assured her that in all probability the hyaloid membrane would be ruptured, and the eye destroyed by total loss of vitreous; still she insisted that as she was almost sightless and would be totally

blind in but a short time, she would much prefer taking the risk of failure in the operation, since the results in case of failure could be no worse.

Yielding to her determination to hazard a chance, I operated, and greatly to my surprise did not lose vitreous.

After the right eye had healed I then operated on the left. The result in this eye was as good as the other. If I remember correctly, the vision was almost normal with a – 11 in the right eye and – 9 in the left.

This case was under observation about a year and a half before I realized the fact that the myopia had not increased. This caused me to believe that the removal of the lens and wearing of the correcting glasses had arrested the disease.

CASE 1.—Progressive myopia, twenty-five D. one eye, sixteen D. the other, duration three years.

Large posterior staphyloma, fluid vitreous and floating opacities in both eyes. Lenses perfectly clear. Patient complained bitterly of our inability to arrest the progress of the disease, also of the wearing of such heavy glasses. I told him the results obtained in the cataract extraction, and expressed my belief that the removal of the clear lens would assist in arresting the elongation of the eyeball. At the same time I fully explained to him the great danger attending the operation. He also insisted, and being emboldened by the success in the other case, I assented.

Having a clear lens to extract, and being fully imbued with the popular superstition regarding the extraction of unripe lenses, I hesitated as to the method of operation.

I was tempted to artificially ripen the lens, but decided to do an ordinary extraction. This was done without the speculum (so as to avoid the loss of valuable time should occasion demand the rapid closure of the lids) without an iridectomy, lacerating the capsule of the lens with the point of the knife as it passed across the anterior chamber. The

lenses were delivered by the lids for the same reason that the speculum was discarded. The whole operation was completed without loss of vitreous.

I found the clear lens as easy to remove as the opaque ones, and a careful examination proved that it had retained its continuity. After instillation of a drop of a one grain to the ounce solution of eserine, the eye was treated as usual after extraction and healed rapidly.

Vision R. E. before operation 20–200–w–20 D., after operation 20–40–w–15 D.

Saw patient ten months afterwards, no increase of myopia in this eye. Left eye decided increase of the myopia. Patient inisisted upon operation, which was performed in the same manner as the other.

Before operation, ophthalmoscope showed 30 D. myopia, best vision 15–200–w–20 D. After operation, 20–50–w–20 D.

CASE 2.—Woman, twenty-five years old. Progressive myopia, duration four years.

R. E. ophthalmoscope showed 20 D. myopia. Posterior ectasia floating bodies, fluid vitreous, vision 20–70–w–20 D. Vision after operation 20–40–w–11 D.

L. E. ophthalmoscope 18 D. myopia, medium sized ectasia, fluid vitreous. Vision, 20–50–w–18 D. After operation, 20–30–w–7 D.

In this eye some of the lens substance remained. It being a very small amount, and fearful of loss of vitreous should I manipulate the eye in attempting its removal, I allowed it to remain. Atropine was instilled daily, and I saw the small portion become opaque, swell to about the size of a small duck shot, and be absorbed without reaction.

This case I saw shortly before leaving New York and found no increase of the myopia.

CASE 3.—This was not my own, but was brought to me after operation. Woman, about forty years old. The lens

of left eye had been needled before extraction to ripen it. It had swelled greatly and produced considerable reaction, necessitating immediate removal. This was done without iridectomy.

The results in this case were not at all satisfactory. The capsules were thickened, opaque, and a tough dense membrane bound the iris to them.

I advised a secondary needling, which was done, but capsules again closed. The only recourse left, apparently, is the removal of capsules and membrane by hook or forceps, an operation I would not care to perform with fluid vitreous.

The results in these cases fully convince me that the operation should be done without attempting artificial ripening. Indeed, in any case of partial opacity of the lens, I do not hesitate to do the usual extraction, finding absolutely no difference in the results.

I know that this operation is dangerous, yet it has demonstrated a decided influence in arresting the progress of this disease.

Not knowing that this operation has never been performed before with this object in view, I present this report to you, trusting that the results may prove as practical in the hands of others as in my own.

TREPHINING IN HEAD INJURY, WITH PARALYSIS OF OPPOSITE ARM, FOLLOWED BY FUNGUS CEREBRI.

BY R. M. HARBIN, M.D., CALHOUN.

Since apparently trivial injuries to the head are so often followed by unfavorable results, both immediate and remote, we are led to consider them more carefully with reference to radical treatment, and it is from a study of cases that do not do well that we derive more practical information. Among the immediate dangers of head injuries to be considered are, symptoms of compression, paralysis, inflammation of brain substance and abscess, and among the remote dangers are atrophy of muscles, insanity and epilepsy.

I have a case to report, and my reasons for doing so are that it is a typical case of head injury furnishing a distinct indication for operative interference, and that it is a striking example of the practical value of the applied rules of topographical anatomy of the brain.

W. S., aged twenty-five, whose previous health and family history were good. Was called to see him December 15th, in consultation with Dr. J. H. Malone, from whom I obtained the following history: Three days previous the patient, in a fight, was struck upon the head with the heavy end of a thirty ounce billiard cue, and was carried home in an unconscious condition. His wounds were dressed, and he revived to a half conscious condition in two hours, having vomited a number of times. There

were a number of wounds about the scalp, but only one was of any serious consequence, and it was a gash about two inches long, on right side, extending from median line at a point about two inches anterior to middle point between occipital protuberance and root of nose, extending outwards and backwards. He complained of intense throbbing headache at locality of wound, and was very restless and irritable, although able to sit up. I saw him on third day after injury, and found above symptoms aggravated, with his opposite or left arm completely paralyzed, sensation being normal. His pulsating headache made him prefer to sit in an elevated position. Pupils were dilated and pulse subnormal, varying from forty-eight to sixty, and temperature normal. A saline purge was given, and then bromide and ergot with cold applications. We diagnosed compression of brain, probably due to blood-clot on motor tract forearm on brain cortex, since the paralytic symptoms were gradually developed. The above plan of treatment was continued until the seventh day, when his symptoms became more profound and had a rise of temperature. The clot neither showed any signs of absorption nor indicated any tendency to become organized, and we realized that the immediate dangers were from inflammation of brain substance and abscess, and the probability of clot increasing its area of compression. And the remote dangers to be considered were from insanity, epilepsy and atrophy of muscles of left arm. The indication for operative interference being clear, we advised trephining, which was done on the seventh day of injury. The scalp was shaved clean and washed. The fissure of Rolando was indicated by Championnierre's line. Draw a horizontal line backwards from posterior border of malar process of frontal bone on a level with upper and outer angle of orbit. A perpendicular line one and one-fifth inches long was drawn at a point on the horizontal line, two and four-fifths inches

from posterior border of malar process of frontal bone. These lines were marked with pen and ink and gave us a point, C, on the scalp. Another point, D, in the median line was obtained by measuring three-fourths inches posterior to middle point between root of nose and lower edge of occipital protuberance.

These two points, C and D, were connected with a straight line which indicates the fissure of Rolando. A point opposite and anterior to median point of this line indicated the middle third of ascending frontal convolution, and this point was about one inch external to the scalp wound.

The course of white motor fibers in brain is interesting. The motor fibers for arm arise from ganglionic cells in middle third of ascending frontal convolution on both sides of fissure of Rolando and pass downward (joining white motor fibers for the leg coming from summit of ascending parietal convolution; joining those for the face from lower third of ascending and foot of second frontal convolutions and joining those from Broca's speech center in foot of third and lower third of ascending frontal convolutions), converging and occupying bend of internal capsule, then passing into crus cerebri, occupying its basal middle two-fifths, and then into pons varolii, the fibers becoming divided and again converging into the medulla.

Most of the fibers decussate here and pass down in lateral tracts of spinal cord (the remaining fibers pass down in anterior columns), and then out by anterior roots of spinal nerves to be distributed to the arm through the brachial plexus.

The scalp was cleaned and the rules of antisepsis and asepsis were rigidly observed. Ether having been administered and a rubber tube passed around the scalp to prevent hemorrhage, a crucial incision, the cross being over the point selected, was made down to the bone, and a fissured

fracture was now observed running the entire length of incision almost parallel to the sagittal suture, and there was no depression of bone. The line of fracture passed through the point selected for trephining, and a seven-eighths inch trephine was set a little in front so that its circumference passed through the fissure.

At every few turns of trephine the track was irrigated with a 1 to 4000 bichloride solution, and carefully cleaned; when the disc of bone was removed a black clot was seen at the bottom between dura mater and skull, and was irrigated with warm boiled water. The clot occupied about three-fourths of area of trephine extending backwards and inwards, and was removed by forceps and irrigation. If we had used point first selected we would have come upon the clot centrally. The clot was about one-third inch thick and oblong in shape, its area equalling that of a silver dollar. The edges of bone were made smooth, and hemorrhage checked by hot boiled water in twenty minutes. The finger was passed under the skull but no spiculæ of bone could be found, and it was not deemed necessary to open dura mater. The wound was closed with catgut and dressed antiseptically. After the operation the patient was put to bed and given hypodermically morphine gr. $\frac{1}{8}$ and atropia gr. $\frac{1}{200}$, from which he rested well that night. A saline purge was given next day and morphine again on second night. After that bromide was sufficient to secure rest. Head was kept elevated, a light diet allowed, and on second day was allowed to sit up some. Slight motion in arm returned before end of twenty-four hours and was confined to flexion and extension at elbow and shoulder joints, which proved that pressure had been removed. He now complained of no headache and felt well every way. The highest temperature was $100\frac{3}{5}°$, and pulse 90 on evening of third day, but soon returned to normal. On January 3d, that is fourteenth day of operation, I noticed a protruding

mass pushing apart edges of wound while dressing, and readily recognized it to be fungus cerebri or heruia of brain. It probably had existed four or five days previously, during which time I had not seen it, as I had intrusted the dressing of wound to the nurse, who allowed the bandages to become very loose. The patient had walked out of the house and overloaded his stomach, which caused vomiting, but the effects soon passed off. Compression was applied by means of roller bandages and sponges, and the mass was reduced somewhat, but by the twenty-eighth day it began to increase in size again and there were symptoms of brain irritation. Headache, frequent and slow pulse, and temperature normal. I cauterized the fungus repeatedly with lunar caustic, but with little effect. The movements of left leg now became impaired but could walk alone. On forty-second day a pocket of pus formed just behind the fungus under the scalp but was opened, and his symptoms improved. But on forty-seventh day his symptoms again became worse and had vomiting and intense headache, pulse small and feeble, and temperature $101\frac{1}{5}°$, but mental faculties were clear. These continued, and on fifty-third day there was escape of cerebro-spinal fluid. His mind now became blurred and delirious at times, with occasional vomiting, pupils dilated, and fungus was now the size of a hen's egg but somewhat flattened. Paralysis in both arms and leg was now complete. He became unconscious, and passed into a coma three days before his death, which occurred on sixty-fifth day after the operation. An autopsy was refused.

We frequently have such cases of head-injury, although the symptoms are probably not so well defined, that are apparently not of very serious moment, and after a number of days develop meningitis or abscess, or else are followed later by epilepsy and insanity, or permanent paralysis. In this case trephining was positively indicated, and although it was followed by fungus cerebri, this complica-

tion is not usually to be expected with proper precautionary measures, and the probability of its occurrence does not materially enter into consideration in deciding upon the operation. And a peculiarity of this case is the occurrence of this complication where there was a small trephine wound and no apparent injury to the dura mater.

The treatment of fungus cerebri is unsatisfactory and most text-books speak of it evasively, and as to the treatment of my case, I did not attempt anything radical on account of its medico-legal aspect. Trephining under the rules of antisepsis and asepsis is not dangerous, and cases nearly always get well where there is no serious brain lesion, and even in extensive brain injury it does not materially add to the danger of the injury.

Many cases of head injury are followed by epilepsy and insanity, or permanent paralysis, that could be prevented by the trephine. I have a case under observation now that I treated five years ago for head injury that was followed by irritative symptoms, and three years later developed epileptic convulsions of an obstinate character. The operation would evidently have prevented this.

The practical deductions to be made from this case are:

1. That this patient would almost certainly have died in the first instance had not the clot been removed.

2. That there was a positive indication for trephining.

3. That it furnished a striking example of the practical value of the applied rules of topographical anatomy of the brain.

4. That the prevention of fungus cerebri is more important than the cure, and is not to be looked for with proper precaution.

5. That the occurrence of fungus cerebri is very unusual in such a small trephine wound without injury to the dura mater.

DISCUSSION OF DR. HARBIN'S PAPER.

Dr. James McFadden Gaston, of Atlanta: I have had some interesting experience somewhat on the line of Dr. Harbin's paper, but in which operative measures in some of the cases were not indicated, and in others they would have proven unavailing although indicated; and I recollect especially one of these cases in which a blow was received on the posterior part of the occiput without fracture so far as we could recognize, although the scalp was cut. Indications supervened which would seem to have warranted trephining, and I had prepared to undertake the operation under the impression that there was an effusion upon the brain; but under active purgation and the use of mercurials, which were instituted in the case, an operation was not performed; and subsequently, instead of indications of compression, we had indications which pointed to cerebritis or meningitis. This man died, and this is the interesting point that I call your attention to in attempting the localization of impressions upon the brain; instead of having a blood-clot in the neighborhood of this blow, which was received at the junction of the occipital bones and left parietal, there was an effusion on the anterior portion of the right hemisphere of the brain, at least six inches from the point where the injury was received. There was nothing in the case in the way of cerebral localization to enable the operator to determine that a clot of blood was located at that point. This clot of blood underwent changes, and led finally to a fatal result.

I have another case which came under my observation in which the man had received a blow with a linear fracture across the posterior portion of the temporal bone, extending back upon the parietal portion. At the time of the blow the patient seemed only slightly stunned. He arose and made his way off without being seriously hurt apparently. In the course of some hours thereafter he was

picked up dead. He had tumbled down and died. Upon cutting down a clot was found beneath the line of the fracture.

In connection with these injuries of the brain, occurring in this way from a blow, I think probably we are warranted, as a general rule, where there are indications of more or less compression, notwithstanding they may not be of a very grave character, in resorting to an operation. We all know that where there is depression of the skull and no symptoms present themselves, it is good surgery to let them alone. In those cases where there is a blow inflicted without depression of the skull, without any indication whatever of the level of the edges of the fracture being changed, we may, if we have symptoms of compression, resort to trephining, and as a general rule we would trephine in the immediate vicinity of the injury, unless with the light of cerebral localization we had symptoms directed to some other point.

I have recently had a case of injury which is unconnected with the idea of fracture altogether, that I think would be instructive to mention to the Association. A gentleman tumbled off the edge of a high piazza, and struck his head against a foreign body, which induced symptoms of concussion of the brain. When called to see the case the symptoms were clearly those of concussion of the brain. He was put upon treatment, and enjoined to be kept quiet and not to go out of the room. He violated this injunction as soon as he improved somewhat and strolled around the yard, when there came on symptoms which indicated not simply concussion, but an inflammatory excitement of the brain. Convulsions came on, and he had spasms for some twenty-four hours. He was put upon active treatment, which consisted of small doses of calomel and the hypodermatic injection of veratrum viride. These symptoms passed off, and he recovered from this injury. This was

not a case, so far as the application of the trephine or any other operative procedure is concerned.

I recollect seeing another case in which a man had received an injury of the brain which had led to more or less secondary symptoms of an inflammatory character. This gentleman was delirious and passed several days in a condition that was doubtful whether his case would terminate fatally, but he ultimately recovered.

I simply allude to these facts with a view to elicit further remarks.

Dr. William Abram Love, of Atlanta: The paper read by Dr. Harbin, together with his diagram showing the nature of the operation, presents a point of very considerable interest with regard to the localization of these cerebral centers, governing motor action. I have watched with interest the case I shall presently report, because it will add another point with regard to the experiments and researches that are being extensively carried on at the present time both in this country and in Europe. I allude to the particular locations of the brain that govern the different movements and muscles of the body. Of course this line of research is, as yet, in its infancy; but it is being gradually brought down till it will ultimately become a science.

Another point that has been alluded to by Dr. Gaston, in making his comment upon it, is the difficulty that arises in injuries of the brain with reference to points outside of the local motor areas. They extend on either side of the fissure of Rolando, the motor track of the cerebrum, and in connection with that, if I may be excused, I will briefly report a case that has been of much interest to me, and one that has been very remarkable in its results.

A boy about fourteen years of age, on his way home from school, was accosted by a negro who struck him with the cutting edge of a club-ax on the head in the region of

the supra-orbital ridge, the cut extending back toward the center of the brain. The ax had been broken at the front end, the sharp point of it, and it had been ground down, making it thick at that point. The ax penetrated the skull and the brain, passing down for a considerable depth into the mental portion of the anterior lobe of the brain, with the ball of the ax turning toward the center of the head. It that way it dished out from the brain quite a considerable portion of the anterior lobe. It broke also the external plate of the brain for about two-thirds of the width of the ax; the internal plate of the skull, a triangular piece of it, being driven down into the anterior lobe. The most remarkable thing about the case was that the boy did not lose his senses at the time of the assault. He walked home. Soon after I reached him he had a convulsion. An examination revealed the fact that a considerable portion of the brain had been entirely separated, a portion of it being on his clothing, and another portion rested on the scalp. This was all removed, and there was an ordinary wine-glass half full of brain substance taken from the anterior lobe of the brain. Passing my finger down I struck the fragment of the internal plate that had been broken off and driven into the brain by the thick end of the ax. I took it out with a pair of forceps, and as soon as it was removed the convulsions, which the patient had been having, ceased. Thinking it might be possible that the periosteum—as has been advocated by some—would reproduce bone tissue, I detached the exterior plate of the skull, leaving the periosteal tissue in connection with the scalp. After all had been cleansed the wound was dressed, silver pins being used in the dressings, and the patient was kept under cold water treatment. The boy made good his recovery. His temperature was very seldom above 101°; sometimes it did rise to 101½°,

but in due course of time, as I have previously remarked, he made good his recovery.

What is remarkable about this case is the point I want to present to the Association. This occurred, I think, on the 28th day of February, 1868. I have kept an eye to the young man from that time until this. He, at the time of the injury, was a student in school, prosecuting his ordinary studies. At the same time he was taking music lessons; and, in addition, taking lessons from a telegraph operator in the town. When the boy recovered and was able to resume his place in the school, I questioned his teachers very closely as to whether or not he had shown any mental deficiency in any of his studies. They told me that he had not. I asked them, then, if his memory troubled him with regard to the studies that he had prosecuted previous to his injury. They told me that it did not. I then went to the teacher who was teaching him music and asked with regard to the effect upon his mind, as to what he learned before he received this injury. The teacher informed me that he seemed to have lost nothing. I went to the telegraph operator and I asked him, and he informed me that the boy was well up in that department. Now, I know in that case the patient lost at least an ounce and a half of brain substance from the anterior portion of the left lobe of the brain. The young man is to-day a telegraph operator and has been for many years, working in a Western Union Telegraph office in a neighboring city in Georgia. With regard to these same cases, showing the amount of brain substance that is lost, showing the effect in such cases and the results, we should consider well what Dr. Gaston has said. It is impossible to localize these injuries from the outside alone when the injury is not in the motor areas.

In connection with this case which I have reported, I

desire to say that we often hear, at our medical associations, papers read on subjects of this nature; and we read in medical literature reports of very many operations for brain injuries; but the results are too generally given at the termination of the treatment, when the patient is discharged from the hands of the physician. It is the ultimate results in which we should be interested.

I know of no case in which recovery has been reported, after a severe injury to the brain, in which there was as much brain substance lost as in this case, except Bigelow's case, which is doubtless familiar to you all. We know in the history of that case, that at the end of three years or more the patient died from the effects of the injury. The patient to which I allude, who had lost an ounce and a half of brain substance from the anterior lobe of the left side, is living; and from February, 1868, until April, 1894, he has been and is discharging his duties with as much power mentally as when he was a boy studying at school, and seemingly as though he had received no injury. It is the results of such cases as this that I desire to bring before the Association, and I would that we could fully recognize still further along in their subsequent history the nature of the ultimate results growing out of the various lines of treatment so often thus reported.

Dr. W. H. Pool: Dr. Love's report of a case of loss of substance of the brain and the man's mental condition remaining intact reminds me of a case that I was called to see about twelve years ago. The man was forty years old, and had received a blow on the side of the head. A portion of the parietal bone was driven into the brain by the stroke of a large army gun. It drove the bone before it into the brain itself. When I arrived the man was insensible and motionless. He did not know he was in the world. I found on examination that the injury was a serious one. I dissected back the scalp and found that a

piece of bone had been driven into the substance of the brain, which I extracted with a forceps. I think I removed four spiculæ of bone from the brain substance. I had fully a spoonful of the brain substance in my hand. After thorough irrigation I closed the wound. I enveloped the head in an ice-bag, covering it completely for ten days. At the expiration of that time I was again sent for to see the case in haste, that the patient was having convulsions. When I arrived I found that there was some little difficulty in the healing of the wound, and I decided that pressure was producing the convulsions. The patient had just gone out of a spasm as I entered the house. I took a tenaculum and I hooked up the portion that was pressing upon the brain, after having made a crucial incision in the scalp, and turned it back, then reclosed the wound. After that the patient did not have another convulsion. I reapplied the ice-bag to the head, shortly after which the man was able to work. He is to-day living in Texas and is able to earn his living by hard labor. I was correct in my diagnosis of the cause of the convulsions.

Dr. H. McHatton, of Macon: In connection with the case that has been reported by Dr. Love, I will say that a case occurred in the practice of Dr. Williams and myself which is very similar. It was that of a young man, fifteen or sixteen years of age, who had the breech-pin of an ordinary gun blown into the frontal part of the brain in an explosion in this position (illustrating). It penetrated the brain substance. When we saw the man he was in a condition of collapse. We trephined and removed this piece of iron from the brain substance with some sixteen or eighteen pieces of bone. I have forgotten exactly how many spiculæ of bone we removed. We also removed a teaspoonful or more of brain matter, after which consciousness returned. Since that time he had no brain symptoms at all. The operation, however, was followed by fungus

cerebri, and we had a great deal of trouble with him. We finally succeeded in destroying a series of growths. This man was a professional thief, and as far as we know he never had any mental trouble afterwards, and two or three years subsequently he had sufficiently recovered to continue his previous vocation, was caught in a burglary and sentenced to the State prison, and the last I heard of him he was still there. This case occurred in our practice six years ago, but so far as any symptoms from the loss of brain substance or the subsequent development of fungus cerebri are concerned, he had none.

Dr. Love: When these cases are brought to the notice of the profession as they have been to-day, they go to make up the sum total by which we draw conclusions. I would like to ask Dr. McHatton what was his plan of treatment for fungus cerebri.

Dr. McHatton: That gave us a great deal of trouble. We first endeavored to treat it by pressure, but did not get any results, and if my recollection is right, we tied off three successive growths by the elastic ligature. One of these growths was fully as large as a goose's egg. That gave us all the trouble we had in the case. Pressure was followed by no benefit at all, but after tying off a series of growths we finally succeeded in getting it under control.

Dr. Love: That is the very reason I asked the question.

Dr. R. E. Griggs, of Columbus: I would make a few remarks, since the subject of injuries to the brain is under discussion. I have had some experience within the last few months with head injuries. The question is whether we have concussion, or whether it is compression. These are the symptoms, and this is a diagnostic point: About six or seven years ago I was called to see a little boy about twelve or thirteen years old with a necrosed femur. I made a resection of six or eight inches of it, and he made a

rapid recovery. I mention this fact to show the scrofulous diathesis of my patient. About eighteen months after that I was called again to see this boy. A brick had been thrown at him and he had compression of the brain with convulsions. With the assistance of Dr. Blanchard, of Columbus, I trephined him. During the operation I found something like a window driven down into the brain. With the assistance of Dr. Blanchard I made an additional operation and removed the depression. The little boy recovered nicely. Some few months after that I was called to make an autopsy on another case; there was considerable litigation afterward. In making this *post mortem* I took off a portion of the skull that had involved the occipital bone. I found the window I have described such as the surgeon left. He trephined all around and in every direction, not reaching the principal seat of the trouble.

This was the first case of fungus cerebri that I ever saw, and I believe the original cause of it was leaving in the window of the inner table, pressing on the brain. I would remind the profession that it is well to pass our finger under the bone, or rather an aseptic probe, around the edges of the inner table, in order to ascertain the fact that there is no membrane of the inner table pressing upon the brain. I am firmly of the opinion the cerebri fungus is very often the result of a single or many little fragments of bone left hanging to the inner tables.

Dr. McHatton: I would say that in the case I have previously mentioned we had ample room, because we had to take out three buttons of bone in order to get at the entire seat of the injury, and consequently we passed out fingers under the bone, and I know there were no spiculæ or roughness left underneath.

Dr. A. W. Griggs, of West Point: I was very much interested in Dr. Love's remarks in connection with the subject of injuries of the brain. The most remarkable thing

in connection with the report he made was that the individual retained his proper senses, walked a certain distance, and did not become unconscious until he had a convulsion, which was produced, as the doctor stated, by compression.

Many years ago there was an old gentleman who received a wound from the edge of an ax-blade that sunk deeply down into the brain. He retained his consciousness long enough to make a will, and the will stood in the courts. He died within a few hours after receiving the injury.

As to the question of loss of cerebral structure or substance, I must say I have known time and again of considerable portions of brain tissue to be lost. Brain tissue will reproduce itself as well as any other tissue, and I do not know why it would not be good practice in cases of fungus cerebri to excise that portion in order to get relief. It seems to me it would be more scientific than to use a compress which may develop compression of the brain.

Gentlemen of the Association, my opinion is that there has been no greater advance in surgery than that of cerebral localization in these injuries, but there are some cases in which it will not work very well. For instance, there was an injury inflicted upon the head of a Mr. Sampson, who lives in my country. He received a blow in the direction of the brow back towards the right parietal wall. He was stunned for a little while but unconscious afterwards. The next day I was called to see him, and he had symptoms then of compression of the brain. At that time we knew absolutely nothing of cerebral localization, and it was impossible for us to know where the injury was until by making an incision, removing the scalp, we found a fissure in that portion of the scalp through the cranial bone. The fissure was opened and a considerable amount of substance came out, and the man made a good recovery but had some slight impediment in his speech afterwards. I think that we ought to encourage as much as possible the studies of

our young men in particular on this subject of brain surgery. It is one of the greatest importance, and one that requires the nicest ideas of any that I am acquainted with.

Dr. T. R. Garlington, of Rome: In connection with what has been said on cerebral localization, I desire to mention one case which was presented to the class in Philadelphia, by Dr. Keen. The patient was about thirteen years of age, and had been referred to Dr. Keen by some neighboring physician. The little fellow gave a clinical history something like this: He had had several convulsions a day for two or three years. Dr. Keen took him under his observation a few days before he presented him to the class. He diagnosed the case as a tumor on the motor area. He had his head shaved, the tumor was located, and then Dr. Keen did a trephine operation, removing a cyst about the size of a guinea egg. Of course, in doing so he had to remove a good portion of the brain. The little fellow made a nice recovery, and at the end of four weeks he again brought him before the class, and stated that he had put the boy under the charge of a specially trained nurse. After that the nurse reports that he had no symptoms whatever of the return of the convulsions. Dr. Keen some time afterwards received a letter from the boy's father, after he had returned home, that there had been no return of the convulsions, and that everything pointed to a permanent recovery.

RESPONSIBILITY AND RELATION OF THE GENERAL PRACTITIONER TO GYNECOLOGY, PREVENTIVE AND NON-PREVENTIVE.

BY R. R. KIME, M.D., ATLANTA.

To properly prepare for special work in gynecology requires years of practical experience in general medicine and obstetrics.

The most successful practitioner is one who seeks to know and eliminate as far as possible the cause of disease.

The conditions requiring gynecological work are so intimately blended with the work of the general practitioner that to seek the cause we must, in most instances, enter the realms of general practice.

If the general practitioner would urge the necessity of the proper development of women, morally, intellectually and physically, and see that they had proper attention during the performance of their normal functions, there would be but little demand for the gynecologist.

When we investigate the cause of disease and injury to the female genitalia, we are inclined to say that the work of the gynecologist consists largely in correcting the effects of diseases and injuries, many of which may be prevented by the general practitioner.

In gynecological work it is not so often a question of eliminating the primal cause of disease, as it is to correct the results of antecedent causes. To illustrate: Pyosalpinx is not a primal cause but the result of a previous inflammation, simple, infectious or specific. Pelvic peri-

tonitis in the female is not idiopathic, but the result of diseased conditions elsewhere. Subinvolution, accompanied with endometritis, displacements, etc., is the result of defective involution of generative organs after labor and abortion. Lacerations are but solutions of continuity, and lead to other complications.

Other instances might be mentioned, but these are sufficient to demonstrate that the general practitioner has to deal more frequently with the cause, and the gynecologist with the effect of disease and injury to the female genitalia.

He who prevents disease is a greater benefactor to the human race than he whose only province is to cure disease. It is the province, even the duty, of every general practitioner to prevent many of the diseases and injuries peculiar to the female; failing to do so, he is culpably negligent and derelict of his duty, for which he should be responsible at least before the court of his own conscience.

The true family physican is the trusted friend and confidential adviser, whose counsel is often sought in regard to the daughter, who is soon to bud and blossom into that being—"the noblest gift to man," a fully developed, pure woman. Thus he is often in a position to wield an influence in the development of the daughter physically, morally and intellectually. Who, of all the professions, should be better prepared to give advice or counsel as to the habits, customs, dress, training and environments in which a girl should be reared to attain that for which she was created. To fulfill such functions the general practitioner should be properly qualified and competent, as well as a man morally. If he is not, would you desire his counsel in rearing your own daughter?

It may be asked what has the physician to do with the moral development of the young. He should have much to do with it by advice and precept, and often has a greater influence for good or evil than he knows of.

An immoral man or woman can never attain perfection physically, intellectually or spiritually. Immorality tends to the development of disease, mental aberrations, hereditary traits and taints, transmissible from one generation to another.

Can pure water flow from a mud hole or a stagnant pond? Can anything be purer than the fountain from which it came except it be purified by forces not inherent to its origin? Then it certainly is the duty of the profession of to-day to purify, so far as lies within its power (by advice and example), the fountain from which generations will flow in the future.

I am glad to know that immorality, profanity and drunkenness are no longer considered marks of distinction and evidences of fitness for the practice of medicine, and that the *morale* of the medical profession is at a higher standard to-day than it ever has been in the past. Not only so, but by education of the public, empiricism, quackery and superstition are rapidly vanishing in the presence of scientific medicine. Georgia is fast falling into the line of march and will soon have the needed legislation to purify the ranks, exclude the charlatans and elevate the standard of the medical profession to where it should be.

Every true physician, whose conscience is not perverted or judgment biased, must admit that the greatest curse to humanity and cause of disease is immorality. Certainly no one can doubt this that knows the results of gonorrhea in the male and its results when transmitted to the female, syphilis numbering its victims by the thousands, inebriety no respecter of persons, and the numerous lesser vices producing results in proportion to their indulgence.

In view of these facts it is time the profession should teach and practice morals as well as medicine, if not from a sense of honor and duty, at least for the good of humanity and the sake of the profession, thereby lessening disease and

suffering, and securing a higher standard of development of the human race. The relation of immorality to disease is typically exemplified in gonorrhea. A young man contracts the disease, is treated by his family physician, who fails to inform him of the serious results in the female; or it may be the young man calls after being dismissed to inquire if there is any risk in getting married. The physician often simply asks a few questions or examines the virile organ; "the platter being clean," consent for marriage is given. But alas, who suffers? Not the guilty physician or lover, but the innocent woman. She receives worse than a poisoned dagger from him whom she loves and adores and expected protection and comfort. The result is disease, often invalidism, sterility and suffering for which the innocent woman is censured by her husband and frequently forsaken for more enjoyable, amorous companions. As a reward for her fidelity to her husband, she is classed as "nervous," having "female weakness," "womb disease," "hysterical," etc.; but in time, she reaches the gynecologist, celiotomy is performed, adhesions broken up, diseased tubes and ovaries removed, a woman unsexed, and the gynecologist called a "belly ripper."

Who is responsible for all this? I say unhesitatingly he who treated the young man or husband for gonorrhea and *failed to warn him of the dangers in transmitting it to his wife.* He may plead ignorance, but that is no excuse in this day of medical progression; here ignorance is not bliss, but a curse.

If I were a young man just entering the threshold of matrimony, I would rather a physician would enter my room at the midnight hour and relieve me of my hard-earned money, than, by his advice and counsel, cause me to commit an act by which the health and happiness of my wife would be destroyed.

It certainly is the imperative duty of a physician to in-

form every male patient he treats for gonorrhea, of the dangers of transmission to the female and its results.

The general public, in cities especially, should be informed on this subject, as well as to the prevalence and dangers of syphilitic infection, thus preventing many of the diseases and conditions requiring the services of a gynecologist.

Next in importance to the general practitioner is the subject of infection, for which he is often responsible directly or indirectly.

It is now conceded by all that septic material conveyed to the parturient will produce septicemia, that retained portions of placenta and blood-clots are liable to decompose and infect patient. When the infection is of a severe character it is readily recognized, as well as the sequelæ, disease of tubes, ovaries and uterus, with adhesions and disease of pelvic peritoneum.

Every case of puerperal infection does not mean severe constitutional disturbance, with serious local complications and death, but we may have all grades, from general peritonitis down to those conditions so light as to be scarcely recognizable. The severity of the infection depends on the variety and activity of the virus introduced, as well as upon the resisting power and condition of the patient. Septic infection may involve only the endometrium (septic endometritis), or it may extend to the tubes, ovaries, lymphatics, blood-vessels, cellular tissue and pelvic peritoneum, producing constitutional symptoms in proportion to the tissues involved and amount of septic material developed and absorbed. While putrid infection is less active and more insidious, it may involve the same tissues as septic infection, but usually with less immediate deleterious results. Being more insidious in character it is more likely to leave behind unrecognized complications,

which in time cause the patient to seek the advice of a gynecologist.

In most cases, not all, the physician or nurse is responsible for septic infection by conveying the septic virus, while in putrid infection it is often a result of faulty management of the parturient after labor. A thoroughly emptied, contracted aseptic uterus, properly treated, is not likely to furnish a nidus for the development of putrid infection. To obtain and maintain this condition is the duty of the physician, which is a very difficult task, at times almost impossible. To leave behind portions of placenta, blood-clots in a flabby relaxed uterus, is but to court this form of infection.

The expectant method of treating abortion, especially in cities, is but to invite putrid infection and add to the exchequer of the gynecologist. In stout, muscular, well developed females residing in salubrious country air, the retention of decidual or placental structures is not so deleterious and serious as in her less favored sister reared in the city, with vitiated air, indoor life, a weakened, nervous, muscular and digestive system, with improperly developed, impaired generative organs and a walking gonococci generator for a husband. These deleterious influences, with impure air, crowded population, closer proximity to all forms of infectious and venereal diseases, conspire to render the expectant treatment of abortion unwarrantable, in city practice at least. These are no hasty conclusions, but are based upon sixteen years of practical experience in country, town and city practice, in both general and special lines of work.

The obstetrician's responsibility does not cease with the prevention of infection, but includes prevention of lacerations of cervix and perineum, as well as eliminating all causes tending to produce subinvolution of generative organs, if he would discharge his duty to his patient and lessen the demands for the gynecologist. It is impossible to

prevent all lacerations, but by judicious treatment, giving time, avoiding ergot (which has killed more children and produced more lacerations than any other agent known), many lacerations can be prevented that would otherwise occur. Where the physician fails to eliminate the causes of subinvolution or immediately repair lacerations, time develops a host of complications that benefit no one except the gynecologist.

Having cited some of the many instances in which the general practitioner may prevent disease and injury to the female and lessen gynecological work, we will now endeavor to point out a few instances in which his duty is reversed, and, for the sake of brevity, will present them in the form of *Don'ts*:

Don't subject young virgins to the humiliation of an examination of generative organs unless there is positive evidence of pelvic disease which cannot be relieved by constitutional treatment.

Don't advise a young woman suffering with dysmenorrhea and constitutional symptoms indicating local pelvic disease to get married, but send her to a gynecologist if general treatment fails to give relief.

Don't tap ovarian cysts, but send patient to an operator.

Don't advise a woman with an ovarian cyst to wait until complications arise, but insist on early operation.

Don't use strong currents of electricity or puncture in uterine myo-fibromata, causing inflammatory complications with adhesions or pus formation, endangering life of patient and adding to complications of operative measures.

Don't use force in replacing an adherent displaced uterus accompanied with diseased appendages.

Don't operate on a lacerated cervix accompanied with diseased appendages, extensive pelvic adhesions, endometritis, etc., but advise treatment of complications, and in many cases the cervix will take care of itself.

Don't tell your patients that removal of the tubes and ovaries will always check the growth of fibroid tumors, establish the menopause, check functional neurotic conditions, relieve mental aberrations or epilepsy.

Don't forget that in these conditions each case must be studied from its individual peculiarities, the conditions traced closely from cause to effect before advising castration.

Don't dilate a cervix or curette a uterus except under aseptic conditions or with antiseptic precautions; then with extreme care where there is disease of tubes, ovaries or pelvic peritoneum.

Don't forget to irrigate, disinfect and drain the uterus in puerperal infection if you would save the life of your patient and lessen work of the gynecologist.

Don't tell a woman near the menopause, suffering with repeated hemorrhages, that it is simply "the change of life working on her."

Don't be guilty of causing procrastination in such cases until it is too late to do the patient any good and cancer invasion seals her fate, and you receive the just censure of the patient and her friends.

Don't allow yourself to be lulled into the false hope that repeated hemorrhages, watery discharges of offensive or non-offensive odor, are accompaniments to the establishment of a normal menopause, but they are always indicative of disease and often of cancerous development.

Don't forget it is your duty to warn all such patients of the danger of such symptoms and advise them to consult a gynecologist, else you will some day be indirectly responsible for the death of a patient.

Don't forget that a woman has a vermiform appendix which is subject to catarrhal or infectious inflammation, ulceration and to disease from the presence of foreign bodies.

Don't advise operation in all cases of appendicitis, for

many cases can be relieved by judicious medicinal treatment.

Don't forget to advise operation in all *severe* cases where medicinal treatment fails to relieve or benefit patient in first one to three days of attack, in all cases that suddenly grow worse, with evidences of perforation after several days of improvement, in all relapsing cases, in all cases where abscess forms, and after due time and treatment the pus is not absorbed.

Don't forget that if operation is performed in acute cases it should be done early; in relapsing cases during the *interim*, in symptoms of perforation at once, before general peritonitis supervenes if possible.

DISCUSSION ON DR. KIME'S PAPER.

Dr. T. D. Love: I do not intend to discuss the paper of Dr. Kime in any way, but I simply rise to add another *don't* to those he has already mentioned, and I would say that in all cases of infection of the uterus from a blood-clot or something of that kind after confinement, *don't* use the curette if there is any possible means of getting rid of the clots that are formed by the use of intrauterine washes and disinfection.

Dr. Richard Douglas: In all cases of puerperal sepsis I would simply say, don't let your patient die, fearing to use the curette. It is often impossible to get into the cavity of the uterus with your finger, which unquestionably is the best instrument for clearing out the cavity; but failing to do so, it is highly important that we should curette the uterus, not with a dull instrument but with a sharp one. Guided by a skilled hand and intelligent brain, there should be no danger in this procedure.

I rise particularly to say that the paper presented is certainly one of the most important and interesting we have had. It is an exposition of all recent thoughts and ideas

in that line. The doctor has shown himself entirely familiar with every question that is interesting gynecologists to-day. I have nothing but commendation for the doctor's paper. It has been an exceedingly interesting one to me, and before I sit down I would emphasize one fact brought out in the treatment of that most common disorder of young women —dysmenorrhea—that one of the conspicuous points is not to submit the patient to an examination. I mean a young girl. I think gynecologists are prone to make the error of examining young women with dysmenorrhea too often. It has been my experience that when you once commence to examine a girl for supposed uterine trouble, you have upon your hands a chronic patient! Under no circumstances should an examination be undertaken until there is reasonable assurance that we have positive disease. I would say that dysmenorrhea is not a disease. It is but a symptom, and where it is persistent, recurring with regularity at each menstrual period, generally there is a pathological condition requiring surgical interference, and under those circumstances an examination under an anesthetic is required; but the tinkering gynecologist who paints the surface of the womb with iodine and stuffs the vagina with a tampon of cotton, will not accomplish good results in treating young women.

Dr. A. W. Griggs, of West Point: The subject under discussion is a very interesting one to me, and particularly that part of it which refers to the prophylaxis that might be used in order to avoid the necessity of those very unpleasant things referred to by Dr. Douglas. My opinion is that a great deal can be done to alleviate and prevent these difficulties as they arise when our females realize the causes for these conditions. For instance, you have a female, you do not give her the proper directions, and she does not know what course to pursue in order to have a

successful termination of her conception. She therefore usually goes on, eats everything she wants, and indulges in every way possible. When she is to be delivered, very often the accoucheur is too anxious; he cannot wait, he must examine the woman every half hour or so, and thereby lays the foundation for some trouble in that line. We generally find a cup of lard on the mantelpiece, and a towel or two. Then we are expected to use antiseptic remedies. We use vaseline. Very well, that has bacteria in it as well as the other, and you infect your patient by an examination during her labor. Another thing: it is a rule in a great many cases, especially among the old women, that the woman must wear the same clothes for two weeks that she is confined in, and you see the great danger that arises from such a state of things as that. I tell you, I am a young man in the profession yet. We are going to take hold and introduce aseptic midwifery and save the lives of our wives, daughters and neighbors, and not have them wear the same old clothes for a week or two. It is always my desire to have my patients in as clean condition as possible. In connection with the same subject, I call your attention to a very unpleasant consideration, and that is the expedients that are used by the females of the country in order to prevent conception. They want to violate the first command that God ever gave. We are not willing to allow this state of things in the South. The means employed by women to prevent conception produce engorgements of the uterus and appendages, and lay the foundation for disease of the pelvic organs of some kind, generally called hyperplasia, or by some great name like it. I lay down the proposition that the doctor who recommends any expedient to be used by a female in order to prevent conception is not only cutting his own throat, but is standing both against science and humanity.

Dr. J. C. Avary, of Atlanta: As a general practitioner I would like to say a few words in this connection in reference to antisepsis and asepsis in the management of these cases after conception has taken place. I want to add my testimony to that of many others who have written on the subject. I regard it as very important that the practitioner should make an examination and find out as early as possible what the condition of the pelvic organs is—find out whether or not there are tubal or ovarian cysts, whether there be inflammations that are extreme, and if there be an excessive leucorrhea or purulent discharge of matter mixed with mucus and pus, and so on, and whether it be from the cervix or whether it be a general discharge from the vagina. Any of these conditions, if present, should be systematically and thoroughly treated before the time of labor sets in, which I think can be thoroughly done by applications of iodine, the patient being in the Sims or knee-chest position. It is important I think to do this in advance, so that we may know just what to expect, whether we may expect an inflammation that will continue after the delivery of the child, or whether we may expect the child to have gonorrheal ophthalmia, and whether or not we may expect the inflammation to extend to the tubes when it has not, perhaps, done so prior to that time. I lay great stress upon the thorough cleanliness of the hands of the examiner before he makes his first examination. I lay great stress upon the thorough cleansing with soap and water of the accoucheur's or of the gynecologist's hands before he makes an examination of his patient. I say to a patient always that I would rather thoroughly cleanse my hands prior to the examination of her than to do so afterwards. If we lay stress on that point and carry it out in every-day practice, we will save many complications that we meet with in general practice.

As to the means of keeping the patient in good condition.

I have followed the extreme idea of emptying the uterus at the time of delivery, and, by the way, I think that if we could get the uterus in a healthy state by a little meddling —perhaps unnecessary meddling—by the application of iodine and a little carbolic acid during the term of gestation, we will not have so many lacerations of the cervix which cannot be repaired after delivery, and that we will have our cases to recover rapidly afterward; then, if need be, we repair the cervix, as a great many good authors on the subject declare we should do. If we need to repair the cervix, we have the tissues ready to heal; whereas if we leave them alone, and there is a thickened, hardened cicatricial condition, such as we often find to prevail at the end of gestation, we find that has been softened down and the parts ready to heal. In that way we get good union; otherwise we may not. Then, after we have thoroughly emptied the uterus by a dull curette, or any means we may choose to select, I think by the Credé method of getting rid of the placenta and membranes afterwards, we hardly ever need to enter the uterus by any instrument, yet now and then we do find it necessary to do so. When we do empty the uterus and get contraction, we relieve the patient of the after-pains or complications that are objectionable, and that bring opprobrium upon the practitioner and pain to the patient.

Dr. Wm. B. Gilmer, of Macon: It was my misfortune to miss the first part of Dr. Kime's paper, but what I heard forcibly suggested to me the importance of his subject. There is no doubt that some of the greatest improvements in modern medical practice have been in the direction of the prevention of the diseases peculiar to women. I cannot go back very far in my own experience, but it was my fortune, when I was assisting Dr. Bozeman in some literary work, to transcribe a great many histories of cases of vesico-vaginal fistula which were taken by Dr. Emmett forty years ago, when he was House Physician of the Woman's Hospital

in New York. Dr. Emmett took these histories with great care, and described the labors which caused the injuries at great length. Sometimes the woman would be in labor a week; at others the medical attendant would operate with no better instrument than his pocket-knife. Since then, by more skillful management of labor, the injuries of parturition have become of comparatively rare occurrence. Perhaps a still more important improvement has and will come from the understanding of the part which bacteria play in the causation of the diseases of the pelvic organs. I am glad that Dr. Kime made such a clear distinction between the different kinds of infection. Besides the infection of gonorrhea, of sapremia and true septicemia which he mentioned, I am gradually becoming convinced that we may add another, although it has never been described. I have had in my practice several cases of endometritis following labor, which, in their clinical features, showed a strong likeness to granular lids, and I found that they had been attended by a nurse that had this trouble. If further observation confirms this theory, it will be seen how important it is in relation to the prevention of pelvic disease. The conjunctival, vaginal, uterine and fallopian mucous membranes are alike susceptible to gonorrhea. Why not to the contagion of granular lids? From this point of view not only should we be careful that the eyes of those who nurse our patients during the puerperal period are healthy, but ophthalmologists should endeavor to prevent self-infection. I have now under my care two young women who have chronic endometritis and salpingitis which date from an attack of granular lids occurring several years ago.

NEPHRECTOMY FOR SARCOMA, WITH REPORT OF CASE AND EXHIBITION OF SPECIMEN.

BY J. B. S. HOLMES, M.D., ATLANTA.

Mary N., aged thirteen months, family history free from cancer, tuberculosis, or syphilis, rather small for her age, but in good health up to early in January of the present year, when she became irritable with considerable digestive disturbance, accompanied with loose bowels. Her mother at this time, in examining her abdomen, detected a small growth about the size of a hen's egg in the right lumbar region. She consulted her family physician, who diagnosed the case as enlargement of the liver. The child was continued under his treatment until the latter part of March, when she was taken to my friends, Dr. R. M. Harbin, of Calhoun, and W. C. Nixon, of Nannie, Ga. Both gentlemen kindly referred the case to me. The child was brought to my office on the 6th inst. After a thorough examination my diagnosis was given as sarcoma of the right kidney. Dr. Garlington subsequently saw the case with me and concurred in this opinion. After explaining the nature of the trouble to the parents, stating that it would prove fatal in a short time and suggesting no hope except from surgical procedure, of course explaining to them the dangers attendant upon it and giving them little encouragement from this source, both the parents not only readily assented to an operation but urged it. The child was brought to me again on the 9th inst. for operation. A dose of oil was immediately given with instructions to the mother to allow noth-

ing in the stomach after six o'clock on the following morning. The next morning, after a bath all over, a nephrectomy was done. After thoroughly cleansing the abdomen, an incision was made beginning near the lower border of the eighth rib and extending downward on the outer side of the linea semilunaris to near Poupart's ligament. As the tumor was very large, pushing the peritoneum far over to the left, I had hoped to do an extraperitoneal operation, but upon making my incision and reaching the capsule, I found it so firmly adherent to the peritoneum as to be unable to separate it without risk of doing serious damage, and perhaps badly lacerating this membrane. Again, on account of the immense size of the growth I was unable to enucleate it without going into the abdominal cavity. I was forced also to make a transverse incision extending from about the middle of the longitudinal one three inches in the direction of the spine. After considerable difficulty the capsule was detached from the peritoneum and the tumor turned out. It was my purpose to have ligated the artery and vein together and the ureter separately, but as considerable time had been consumed in breaking up the adhesions, I ligated the ureter and vessels *en masse* with a silk ligature. The peritoneum was closed without flushing by a running suture of fine silk. I did not include the peritoneum in the stitches through the skin, muscle and fascia, from the fact that I had to go through so much muscular tissue and fascia, with the resulting uneven retraction of the fascia, that I was afraid I could not get perfect coaptation of like tissue by passing my sutures from the skin to the peritoneum, including all intervening substance.

A drainage-tube of rubber was placed in the lower angle of the wound, extending from the cut vessel to two inches beyond the skin. This tube was allowed to remain forty-eight hours, when it was removed, the opening closing promptly without suture. Before closing the wound the

tissues were thoroughly cleansed with sterilized water. After bringing the parts together iodoform was sprinkled freely over the surface, four thicknesses of iodoform gauze were laid over the abdomen, bichloride cotton placed upon this and two adhesive strips two inches wide placed over this, extending two-thirds around the body.

Squibb's Chloroform was used as the anesthetic. The patient was put to bed in good condition, having lost not more than an ounce of blood, perhaps not so much. At the end of twelve hours her temperature had reached 100°. The following day at 3 P. M., twenty-eight hours after the operation, her temperature had reached 102½°; considerable tympanitic distention of the abdomen, but no gastric disturbance had shown itself. I gave her one grain each of calomel and soda, with instructions that a half grain of each be given every four hours till three grains had been taken. It was not necessary, however, to repeat the dose as the first acted within three hours, and acted three times afterwards within twelve hours, she passing six immense lumbricoid worms in this time. The following day her temperature was normal and continued so until the fourth day, when there was a slight elevation, reaching 100°. I examined the dressings and found some redness at one stitch which had been drawn too tight. This was removed and a little pus escaped, when the temperature went down, and in six hours was normal, continuing so up to the time I left her on Tuesday afternoon, the beginning of the eighth day. Half of the stitches were removed on the sixth day and the balance on the day following. With the exception of one stitch hole abscess, the incision healed entirely without suppuration. She has had no nourishment from the beginning except her mother's milk, which I have allowed her to have freely after the first twenty-four hours. She has also after that time had water *ad libitum*. No opiate has been given. When I last saw her, Tuesday afternoon, she was

playing with her toys resting upon an easy pillow in her little carriage, and I feel perfectly assured as to the result of the operation.

The tumor, with the kidney, which I have the pleasure to present to the Association, weighed three pounds and two ounces. As you will see, the kidney is not encapsulated by it, but rests almost as a flattened shell upon its surface.

I have not had my diagnosis verified by microscopic examination, which I will have done later. The case, on account of the youth of the patient, is one of considerable interest. I might add that when the abdomen was opened, before removing the tumor, I passed my hand to see if the left kidney existed, and I found that it did, and as far as I could tell from touch it was sound. She has secreted an abundance of urine since the operation.

I was assisted in the operation by Drs. Garlington, Johnson and Wynn.

NOTE.—Since this paper was read the patient has been discharged cured.

TEETHING.

BY H. M'HATTON, M.D., MACON.

There are a class of popular diseases that one naturally attacks with a certain amount of hesitancy, as the task is so great that he fears entering into it. Among this class may be mentioned "Change of life," "Biliousness," synonym "my liver don't act," and last, but by no means least, "Teething." This group of diseases, in my estimation, cause more preventable deaths in our State than any other we can mention.

It does seem that in writing an article on "Teething" one would be safe in saying what he pleased, but think of what he directly antagonizes—tradition, superstition, ignorance, the monthly nurse, the grandmother, every old woman in the neighborhood, married, single or otherwise, and last, but by no means least, the medical profession.

The doctors may be divided into three classes in their attitude towards this disease:

1. Those that in all cases attempt to make a correct diagnosis of the condition of their patient, and go into a long and usually thankless course of explanation as to the supposed case of teething being due to dietary indiscretions, improper care, inherited defects, or any other condition that is so commonly diagnosed as teething.

2. Those that know that the condition is due to some other cause, but who are of that type that avoid all worry or extra work, and will treat the case on its merits, but are perfectly willing to allow the family to worship their idol of teething to their heart's content.

3. Those that foster and directly propagate the disease in the popular mind, some because the diagnosis of teething is always acceptable. No one is usually blamed for the death of a teething child; it is so simple, so easy, so satisfactory and so mutually agreeable to all parties in the case, with the probable exception of the baby, who fortunately has nothing to say; others who unfortunately have no diagnostic ability, and still a few others who honestly and conscientiously believe that dentition is directly the cause of most of the ills of infantile life.

No one denies that dentition is a physiological process. *Pari passu* as the infant departs from its natural state, teething is increased in violence. The infant who is fortunate enough to have a mother who is physiologically perfect, and who treats her child as nature intended, does not teeth the first year, but is liable to the second summer. We all know why. The one who has to be partially bottle fed teeths oftener and earlier than the above mentioned. The one that is bottle fed from the start, and exclusively, teeths, as a rule, early, often and in many cases fatally. This is not confined to infants. All of us who have had much experience in raising the young of any of the mammels know that the mortality from teething bears the same proportion under the same circumstances as it does with the infant. Were the condition of teething due only to dentition, the surroundings of the child would not be so important a factor; neither would the season of the year. Yet it is well known that summer is pre-eminently the teething season.

In partial proof of the above, allow me to quote a few cases of so-called teething. I have a patient who is the mother of ten children; she has always lived in the same place and in the same condition of life. With the first eight children she had an abundance of milk and not a

case of teething ; with the last two she had no milk and two fatal cases of the disease. Another patient, mother of four children, same surroundings as the first, never had any milk ; first two children died teething ; second two in consequence of employment of wet nurse, have never had an attack, and are both past the period when it is possible. Another case, first child born in the fall, mother with an abundance of milk, but the idea that the good Lord did not know what an infant should be fed on. This infant began to have attacks of teething early in the spring, each one easily traced to some dietetic spree, and each one more severe than the previous. At last a severe attack, following a meal of corn bread and pot-liquor, a rather plain talk on my part brought out the fact that doctors did not know much about teething children anyway, and no doctor had the experience Aunt Lucy had had. I had it, Aunt Lucy was my professional rival, and I felt the time had come when our respective positions should be defined. Upon being called, Aunt Lucy proved to be one of the regular old *ante bellum* type of negro nurses, that cannot be bettered, if they are controlled. We conversed as follows:

"Been nursing long, Auntie?"

"Yes, sir ; nussin' young miss dare, an' ole miss, an' all ole missus' chillun since afore freedom."

"Is pot-liquor and corn bread good for babies?"

"Corn bread and pot-liquor's de bes' in de world for babies an' puppies, yes, sir."

"Always feed your own babies on it?"

"Yes, sir."

"How many babies have you had, Aunty?"

"Thirteen, sir."

"How many alive now?"

"One, bless de Lawd!"

"That will do, Aunty."

Upon the withdrawal of my rival I informed my patient that it was purely a question for her own decision, to try my plan of infantile feeding with an unknown mortality, or Aunt Lucy's with a mortality of twelve in thirteen. Since then I have had no trouble with teething children in that family.

Some years ago I saw in consultation a fatal case of teething in an infant of eight months. The mother was a perfect specimen of womanhood, with, as far as any test could reveal, an abundant and physiological secretion of milk. She assured me that there was no possible chance for the baby to have ever had anything but the breast milk, as her nurse was perfection, and the child was never from under her supervision. The case was an enigma to both the family physician and myself; why a child under these circumstances should die of gastro-enteritis we could not see. Over a year afterwards we found that for weeks previous to the fatal illness the nurse had taken the infant into the kitchen at each meal and fed it with everything on the table.

Last summer I had a very severe attack of gastro-enteritis in a fine infant of seven months, and never did succeed in convincing the family that it was not a case of teething or that the meal of grated ham, strawberries and ice-cream, taken the evening before the attack, could have had any bearing on the condition.

I saw an infant of three weeks being fed on coffee and light bread, and know of another of three months in a public institution in this State that would eat nothing but greens and hominy; both, of course, teethed promptly and fatally.

It is useless to multiply this type of cases to endeavor to show a relation between the so-called condition of teething and dietetic errors. I suppose there is scarcely a disease of

infancy that has not been diagnosed by the laity, and even the profession in times gone by, as due to teething, or being influenced by said condition. All such diagnostic errors lead to some fatal cases, but they all combined do not cause as many deaths as the diseases referable to the digestive system. It is only recently that a certain amount of looseness of the bowels in the teething infant has not been considered beneficial by the mass of the profession, on the same vague idea that one should not cure an ulcer of the lower limb, bleeding piles, fistula in ano, or an extensive eczema for fear of some grave consequences.

The looseness of the bowels and eczema in the teething infant you still occasionally hear of; the rest are things of the past, professionally. The looseness of the bowels fallacy flourishes and even extends from year to year among the laity. With our farmer friends, I may say that attacking it is on a par with attacking nut-grass—the more you fight it the worse it grows.

I know that most of us will agree that dietetic errors are the cause of nearly all digestive disorders in the infant, and all of us, that whereas the said disorders are in the beginning and non-inflammatory stage most amenable to appropriate treatment, by neglect they become the worst type of diseases that we have to contend with. What would early in the case have been a question of a dose of oil and appropriate food, in a few days is a condition in which often our art avails us nothing, either in medicine, food or a radical change of climate. Right here is where the fatality of the popular idea of the beneficial effect of the loose bowels comes in.

How often have each of us been called in by the young mother, and the old one, too, and gotten the following history: "Baby's bowels began to get loose a few days ago. She is teething, and you know that all teething babies have

loose bowels. They are not getting any better, and we thought we had better see you. She is having about a dozen actions a day, and throws up everything we give her." We are led to the little crib; there is no use in describing what we see; we have all seen it, and so has nearly every mother in the land. We examine the little sufferer, try to look unconcerned, and at the same time say to ourselves, "too late." Let us, one and all, use our most earnest endeavors to correct as much as possible this popular and fatal fallacy.

I will now give some quotations from standard authors, and beg your indulgence for their length, as this is a subject of deep interest to me:

Forcheimer discourses in an exhaustive manner on the symptoms and treatment of dentition. He believes dentition to be a physiological process, subject, perhaps, to occasional pathological conditions, but these are infrequent and obscure.

Brothers, after long study upon the subject, is convinced that the influence of teething has been much exaggerated, but he is not willing to join the ranks of those who deny it any place whatever. The teaching that moderate diarrhea during the period of dentition is beneficial is pernicious, and has caused the death of many children.

Adams believes the evolution of the teeth to be a purely physiological process, subject sometimes to perversion. In a series of careful observations on two hundred and eighty-eight patients he found seventy per cent. of those without teeth were fed wholly or in part upon table food. With such evidence the question at once arises, whether it is not more scientific to attribute digestive disturbance to a known factor, improper food, than to a hypothetical one, a tooth still confined to its sac.

Jacob, in considering the morbid process which has been

said to originate in normal dentition, says: "It should not be forgotten that dentition is a physiological process. I have not seen convulsions dependent upon difficult dentition in the course of the last ten years. A large number of diseases which have been attributed to dentition owe this erroneous diagnosis to the fact that the diagnostic powers of the practitioner were limited, like those of the public with which he had to deal."

Eustace Smith, speaking of chronic diarrhea: "In the case of infants who are cutting the incisors these teeth usually appear without difficulty or apparent aggravation of other symptoms, nor does the eruption of each tooth appear to be accompanied by any improvement which can be attributed to that as its cause. Dentition goes on rapidly and easily, while the diarrhea remains stationary or slowly improves. Many children are said to cut their teeth with diarrhea; perhaps, however, dentition in these cases is not so entirely to be blamed as is commonly supposed."

J. Lewis Smith: "The opinion formerly entertained in the profession, and now prevalent in the community, that many infantile maladies arise directly or indirectly from dentition is erroneous."

James Fenlayson in his work on diagnosis in Keating's Cyclopedia, has a subdivision with this caption, "Diagnosis Made Easy — Teething." Some extracts are as follows: "This convenient theory of the dependence of infantile diseases on the process of dentition is of course now exploded, and it might be supposed that it needed no notice in a work like this, but superstitions are difficult to kill. A tooth rash is a splendid safety valve, and when it resists our best efforts at treatment, we can explain how dangerous it is to cure a rash in a teething child in case of its driving in the disease to some internal organ. The affection of the eyes and ears are too obvious to require explanation. Do

we not speak of the eye-tooth, and who has not felt a pain in his ear from a bad molar? The popularity depends partly in its saving a world of trouble to the doctor, but also its meeting the views of the parents, but if the beginner is ever to make any progress in the diagnosis and treatment of the diseases of infancy, he must take up the attitude of refusing to believe that any child is ever seriously ill from teething."

John Downing: "At one time dentition was held accountable, directly or indirectly, for nearly all the ills of infancy. At the present day, owing to a more extended knowledge of the etiology of disease, and greater proficiency in methods of diagnosis, the symptomatology of dentition and its power as an etiological factor are, with the majority of the profession, becoming more and more restricted, and by some totally ignored. There are, however, others who still adhere to the old doctrine of dentition as tenaciously as do the laity, and in their practice among the infant population find more use for the gum lancet than for common sense."

I have been in the habit for some time of giving a little phamphlet to each of my patients who have babies, and must say, after some years of trial, the schedule below has given more satisfaction than any method of infant feeding I have yet tried, and it has served as a most efficient prophylaxis against teething, where I can get it fully complied with:

GENERAL RULES FOR FEEDING.

No artificial food can compare with mother's milk.

Diarrheal diseases are the greatest cause of mortality in young children.

Never neglect a diarrhea in a child because you think it is teething, and the diarrhea is consequently natural.

AGE.	INTERVALS OF FEEDING.	AVERAGE AMOUNT AT EACH FEEDING.	AVERAGE AMOUNT IN 24 HOURS.
First Week.	2 Hours.	1 Ounce.	10 Ounces
One to Six Weeks.	2 to 2½ Hours.	1½ to 2 Ounces.	12 to 16 Ounces.
Six to Twelve Weeks and Possibly to Fifth or Sixth Month.	3 Hours.	3 to 4 Ounces.	18 to 24 Ounces.
At Sixth Months.	3 Hours.	6 Ounces.	36 Ounces.
At Ten Months.	3 Hours.	8 Ounces.	40 Ounces.

Diet during the first week: *Cream, 2 teaspoonfuls; milk, 3 teaspoonfuls; water (hot), 3 teaspoonfuls; milk sugar, ¼ teaspoonful.

For each portion: To be given every two hours from 5 A. M. to 11 P. M., and in some cases once or twice at night.

Diet from the second to the sixth week: Milk, 1 teaspoonful; cream, two teaspoonfuls; milk sugar, ¼ teaspoonful; water, 2 tablespoonfuls.

For one portion: To be given every two hours from 5 A. M. to 11 P. M.

Diet from the sixth week to the end of the second month: Milk, 2½ tablespoonfuls; cream, 1 tablespoonful; milk sugar, ½ teaspoonful; water, 2½ tablespoonfuls.

For each portion: To be given every two hours.

Diet from the beginning of the third month to the sixth month: Milk, 5 tablespoonfuls; cream, 1 tablespoonful; milk sugar, one teaspoonful; water, two tablespoonfuls.

For each portion: To be given every two and a half or three hours.

Diet during the sixth month: Six meals daily, from 6 or 7 A. M. to 9 or 10 P. M.

*Cream, milk and water to be sterilized.

Morning and mid-day bottles each: Milk, 9 tablespoonfuls; cream, 1 teaspoonful; Mellin's Food, one teaspoonful; water (hot), 2 tablespoonfuls.

Dissolve the Mellin's Food in the hot water and add, with stirring, to the previously mixed milk and cream.

Other bottles each: Milk, 9 tablespoonfuls: cream, 1 tablespoonful; milk sugar, 1 teaspoonful; water, 2 tablespoonfuls.

In the seventh month the Mellin's Food may be increased to two teaspoonfuls and given three times daily.

Throughout the eighth and ninth months five meals a day will be sufficient.

First meal at 7 A. M.: Milk, 13 tablespoonfuls; cream, 1 tablespoonful; milk sugar, 1 teaspoonful; water, 2 tablespoonfuls.

Second meal at 10:30 A. M.: Milk, cream and water in the same proportions; Mellin's Food, one tablespoonful.

Third meal at 2 P. M.: Same as second.

Fourth meal at 6 P. M.: Same as second.

Fifth meal at 10 P. M.: Same as first.

Instead of Mellin's Food, a teaspoonful of "flour-ball" may be added.

Two meals of flour-ball daily—say the second and fourth—are all that can be digested. To prepare these, rub one teaspoonful of the powder with a tablespoonful of milk into a smooth paste, then add a second tablespoonful of milk, constantly rubbing until a cream-like mixture is obtained. This is poured into eight ounces of hot milk, stirring well, and is then ready for use. The other meals should be composed of milk, cream, sugar of milk and water, as already given.

Mellin's Food and flour-ball may be substituted by oatmeal or barley.

Diet for the tenth and eleventh months: First meal 7

A. M.: Milk, 17 tablespoonfuls; cream, 1 tablespoonful; Mellin's Food, 1 tablespoonful.

Or, flour-ball or barley jelly, two tablespoonfuls; water (used only with Mellin's Food), two tablespoonfuls.

Second meal at 10:30 A. M.: A breakfast-cupful of warm milk (eight ounces).

Third meal at 2 P. M.: The yolk of an egg lightly boiled, with stale bread-crumbs.

Fourth meal at 6 P. M.: Same as first.

Fifth meal at 10 P. M.: Same as second.

On the alternate days the third meal may consist of a teacupful (six ounces) of beef tea containing a few stale bread-crumbs.

Diet from the twelfth to the eighteenth month: Five meals per day.

First meal at 7 A. M.: A slice of stale bread, broken and soaked in a breakfast-cupful (eight ounces) of milk.

Second meal at 10 A. M.: A teacupful of milk (six ounces) with a soda biscuit or thin slice of buttered bread.

Third meal at 2 P. M.: A teacupful of beef tea (six ounces) with a slice of bread, one good tablespoonful of rice and milk pudding.

Fourth meal at 6 P. M.: Same as first.

Fifth meal at 10 P. M.: One teaspoonful of Mellin's Food with a breakfast-cupful of milk.

To alternate with this:

First meal at 7 A. M.: The yolk of an egg lightly boiled, with bread-crumbs; a teacupful of milk.

Second meal at 10 A. M.: A teacupful of milk with a thin slice of buttered bread.

Third meal at 2 P. M.: A mashed boiled potato, moistened with four tablespoonfuls of beef tea; two good tablespoonfuls of junket.

Fourth meal at 6 P. M.: A breakfast-cupful of milk with a slice of bread broken up and soaked in it.

Fifth meal at 10 P. M.: Same as second.

The fifth meal is often unnecessary and sleep should never be disturbed for it; at the same time, should the child awake an hour or more before the first meal, he must break his fast upon a cup of warm milk, and not be allowed to go hungry until the set breakfast hour.

Diet from eighteen months to the end of two and one-half years, four meals a day:

First meal at 7 A. M.: A breakfast-cupful of milk; the yolk of an egg lightly boiled; two thin slices of bread and butter.

Second meal at 11 A. M.: A teacupful of milk with a soda biscuit.

Third meal at 2 P. M.: A breakfast-cupful of beef tea, mutton or chicken broth; a thin slice of stale bread; a saucer of rice and milk pudding.

Fourth meal at 6:30 P. M.: A breakfast-cupful of milk with bread and butter.

On alternate days:

First meal at 7 A. M.: Two tablespoonfuls of thoroughly cooked oatmeal or wheaten grits with sugar and cream; a teacupful of milk.

Second meal at 11 A. M.: A teacupful of milk with bread and butter.

Third meal at 2 P. M.: One tablespoonful of under-done mutton pounded to a paste; bread and butter, or mashed baked potato moistened with good, plain dish gravy; a saucer of junket.

Fourth meal at 6:30 P. M.: A breakfast-cupful of milk, a slice of soft milk toast, or a slice or two of bread and butter.

When sickness supervenes, all that is ordinarily necessary is a reduction of the diet to plain milk, or milk with Mellin's Food.

Even the youngest infant requires water several times daily, and the demand increases with age.

The foregoing schedule must, of course, be regarded only as an average.

Many children can bear nothing but milk food up to the age of two, or even three years, and, provided enough be taken, no fear for their nutrition need be entertained. If a child be thriving on milk, he is never to be forced to take additional food merely because a certain age has been reached; let the healthy appetite be the guide.

OATMEAL GRUEL.—Mix a tablespoonful of oatmeal with two tablespoonfuls of cold water, stirring to bring to a state of uniformity; then pour it into a pint of boiling water in a saucepan, and boil and stir well for ten minutes. Flavor with salt or sugar. If the boiling be continued for half an hour the mixture thickens into a porridge.

BARLEY-WATER.—Put two teaspoonfuls of Robinson's Prepared Barley into a saucepan with a pint of clear water, and boil slowly down to two-thirds of a pint; strain through muslin.

FLOUR BALL.—Take a pound of good wheat flour, tie it up very tightly in a strong pudding bag; place it into a sauce-panful of water and boil constantly for ten hours. When cold remove the cloth, cut away the soft outer covering of dough that has been formed, and reduce the hard, baked interior by grating.

WHEY.—Milk, one pint; essence of pepsin (Fairchild's), two teaspoonfuls. Heat the milk up to a point that can be agreeably borne by the mouth, and add the pepsin with gentle stirring; let the whole stand until firm coagulation has taken place, then beat with a fork until the curd is finely divided, and strain.

ENDOMETRITIS—ITS PATHOLOGY, SYMPTOMATOLOGY AND TREATMENT.

BY WILLIAM W. STEWART, M.D., COLUMBUS.

In beginning the discussion of this subject, I do so feeling that upon these lines of reasoning hangs the only true conception of endometritis and its treatment; these conclusions are drawn from a large clinical experience and a close study of its pathological conditions. I will classify the conditions as simply as possible, take up its etiology and pathology, and discuss its treatment from the standpoint of its pathology.

We have simple, septic and gonorrheal. Under the head of simple are gathered all those conditions, inflammatory in character, invading the endometrium, produced by the following causes:

Displacements causing chronic congestion and hypertrophy.

Imprudent exposure during menstruation.

Retention of menstrual flow or mucus by cervical obstruction.

Sexual abuse either in intercourse or masturbation.

Fevers, eruptive and protracted simple.

Frequent miscarriages.

Traumatism by intrauterine instrumentation or pessaries.

Under the head of septic are gathered all those causes by which septic material or germs are implanted upon or within the mucosa, as by dirty instruments or hand.

Decomposing menstrual blood or lochia infected by lack

of cleanliness at menstruation or abortion. (Those forms arising at confinement come rather under the head of puerperal fever.)

Torn perineum, which makes of a normally closed vagina a cavity frequently filled with air, thus opening broad avenues for infection.

Gonorrheal, alone caused by introduction of the gonococci.

We may find the pathology of simple metritis one of two forms: Primarily, and by far the most common, is a hypertrophied condition of the mucous membrane, follicles tortuous, but retaining in its integrity its epithelial covering, which presents a swollen appearance; muscular walls thickened, often causing decided enlargement of the uterine body; blood-vessels engorged and turgid, aiding in the local œdema; small capillaries multiplied in number and distended with blood, bleeding freely on slight traumatism or over-exertion; crypts between follicles filled with glairy mucus and lymphoid cells, which are constantly discharged as a leucorrheal discharge.

From the supernutrition produced by the over supply of blood, there often springs into existence fungosities, which are truly hyperplastic cells, or following a confinement or abortion, small particles of decidua or placenta may remain which take on new life and growth, forming fungoid masses. In either condition there is constantly thrown off a mucoid discharge, varying in color by the number of lymphoid and desquamated epithelial cells which it contains. Either of these growths at menstrual period may produce metrorrhagia and often alarming hemorrhage.

Secondly: The atrophic form in which the uterine walls are hardened by sclerosis, the mucous membrane almost devoid of epithelium and closely adherent to submucosa, crypts few in number. This condition is always a secondary

one, and is invariably associated with amenorrhea and dysmenorrhea of a distressing and intractable form.

The symptoms and many complications arising from endometritis are of much interest, illustrating more perfectly the effect of the sympathetic nervous system on the different organs of the body and the general health than any other disease. The leading symptoms of endometritis are headache, occipital and parietal in location, flatulence, indigestion, fermentative in character, produced by dilation of the stomach, which is almost constantly associated with endometritis of long standing, pain in either breast, usually the left, great fatigue from exercise, leucorrhea distressing in character, in the acute forms quite profuse and sometimes of very bad odor. In the atrophic form the leucorrhea is absent or very slight, but all other symptoms are usually present in aggravated form. In both forms, the nervous system is thoroughly shattered, often producing hysterical phenomenon whose form is legion. Sufferers from this trouble quickly develop a decided cachexia, often suggestive of malignant trouble though none exists.

The treatment of the simple acute endometritis is almost sure to yield prompt and good results when the condition does not exist in an aggravated form, and can be taken early. The greatest benefit and flattering results can be obtained by change of air, well regulated hygiene, exercise and nutritious diet, combined with a judicious administration of chalybeates and arsenic. At menstrual period rest in bed throughout its course, to be continued for at least four successive months. Metrorrhagia and dysmenorrhea, if they exist, are well controlled by the judicious use of fluid extract of vibernum prunifolium, hydrastis and cannabis indica.

It is, however, the misfortune of both physician and patient, that when the metritis first makes its appearance, it is looked upon as a matter of small moment, the result

only of a bad cold or over-exertion; or, if the family physician is called, he is too prone to pass it by unheeded, with the remark: "If it troubles you, let me know." By slow degrees, the once simple condition passes into one which demands attention. And let me urge that the attention be prompt and decisive, for only by such measures will perfect results accrue. There are three lines of treatment to be selected from under these conditions, depending upon the variety and extent to which the process has advanced. In the simple acute, just passing into the more aggravated forms, and in the atrophic variety, simple gauze packing will in many instances prove all that is required.

To insure good results in performing this operation, and to steer clear of the rock of sepsis, upon which so many surgical crafts are wrecked, it must be borne in mind that the vagina contains at all times thousands of pyogenic cocci, and it would be easy through this medium to infect a previously uninfected endometrium, thereby exchanging the simple for the septic form, with its legion of complications.

To avoid such dire results, the strictest laws of antisepsis should be observed. A vaginal douche of one to two thousand sublimate solution should be given; then the external genitals should be thoroughly scrubbed with tincture of green soap and warm water, a perfectly clean speculum then introduced, and vagina and cervix well wiped off with pledgets of absorbent cotton, dipped in a sublimate solution of one to two thousand; cervix should then be caught with a tenaculum and drawn forward, thereby straightening cervical canal; cervical canal should then be wiped out with absorbent cotton on an applicator having previously been merged in same solution. If necessary, cervical canal should then be slightly dilated, cervix being steadied by tenaculum, a long strip of iodoform gauze, three-quarters to one inch in width, and from fifteen to twenty per cent. in

strength, is looped over the end of a smooth uterine sound, and gently introduced to fundus; the sound is then withdrawn and point again entangled in gauze at the mouth of the cervical canal; and gently introduced, thus loosely packing the uterine cavity with gauze. It is then clipped off about one inch from cervix, and a wider strip is introduced in the vagina over and around cervix. Cover this with a pledget of sterilized or borated cotton, and operation is then complete.

This dressing is allowed to remain unmolested four or five days, patient preferably remaining in bed. This, however, is not absolutely essential to a successful result, as she may be permitted to remain upon a sofa or recline in an easy chair.

On the fourth or fifth day this dressing is removed, with the same precaution, and again packed. This procedure is repeated, if necessary, four or five times. If menstrual flow should appear, remove dressing and repack fourth day after its disappearance.

This treatment insures drainage and an aseptic healing dressing to an inflamed and œdematous mucous membrane in the more acute forms, and to a mucous membrane below the normal in its nutrition in the atrophic; in both instances a perfectly scientific procedure, which recommends itself from every standpoint of common sense and good surgery.

In the acuter forms this treatment, by drainage and antiseptic dressing, quickly brings about resolution, and restores the engorged uterus to its normal condition. In the atrophic it stimulates and insures better nourishment to an impaired and partially destroyed mucous membrane, and thereby often, to some extent, removing the troublesome dysmenorrhea and amenorrhea.

In the severer forms of the septic, which have become

chronic in character, with troublesome symptoms, curettage should proceed the gauze packing as already described.

The septic form in its acute invasion presents a picture, once seen, never to be forgotton, and as differentiation between gonorrheal and septic can only be made by the microscope, this clinical picture will represent both:

A patient, after miscarriage, abortion, dirty instrumentation, the wearing of a stem pessary or the introduction of the gonococci is first taken with headache and languor, followed by chills and fever, usually high, micturition is usually frequent, urine small in quantity, bowels constipated, tympanitis more or less constant, depending upon extent of invasion of pelvic peritoneum, pelvic region tender on pressure, and colicky, uterine pains gradually becoming a dead ache. Examination reveals vagina hot and bathed in muco-pus, more or less hemorrhagic, uterus engorged and exquisitely tender to touch; exudative masses may be found surrounding uterus if adnexa be involved.

By speculum examination a large, turgid, often bluish cervix is exposed, from which there is constantly discharged a ropy muco-pus; cervix may be eroded, and in cases of late abortion and post partum origin, patches of diphtheritic membrane may be found upon cervix and vaginal walls, due to the presence of the streptococci.

Endometritis, when produced by the gonococcus, is usually less rapid, and rarely causes death; whereas, in the septic form, death not infrequently draws a veil around the victim.

Whenever these conditions present themselves, never hesitate; act with prompt, thorough, clean and determined intent; with such good results will surely come, and many lives of suffering and invalidism caused by diseased adnexa will be saved. Treat the disease as common sense and good surgical rules surely dictate.

What surgeon is there to-day, who, having such a condi-

tion in any other portion of the body, would not make it his first step, his foundation for further treatment, to thoroughly cleanse the septic cavity, following it by good drainage.

Strike off the shackles of ignorant timidity, which holds to vaginal douches, hot poultices and leads to high mortality.

To thoroughly cleanse this cavity, by referring to its pathology, it is found that staphylococci and streptococci are almost entirely found in the mucosa, rarely penetrating to the muscular wall; mucous membrane is bathed with pus, and in aggravated forms the mucosa at times necrotic.

In the gonorrheal, the gonococci rarely pass deeper than the lymph spaces beneath the epithelial lining.

This being clear, the first step suggested is to remove the infected tissue, which should be done thoroughly; a half procedure is worse than none. This should be procured by curettage, a description of the method of which is given later.

The pressure of pelvic exudate is no contraindication, but rather an indication of curettage.

Curettage, under all circumstances, should be performed with the greatest care. Bowels should be thoroughly evacuated the night prior to the operation, with free doses of salts; one hour prior to administration of anesthetic, an enema of warm water should be given; vaginal douche of one to two thousand sublimate solution should then be given, and external genitals should be well scrubbed with hot water and tincture of green soap, after which the vulva should be covered with a pad of sublimate gauze held in position by a napkin.

After anesthesia is complete, instruments being sterilized, a speculum should be introduced, and any mucus that may have collected in vagina washed out with stream of sublimate solution one to three thousand; vaginal walls and cervix should then be washed with pledgets of absorbent

cotton soaked in same solution, and cervical canal cleansed with cotton wrapped upon an applicator, immersed in either carbolic acid, pure, or sublimate solution; cervix should then be caught by tenaculum, drawn down and steadied, dilator introduced and cervical canal well dilated; intra-uterine washer should then be introduced, and uterine cavity washed with sublimate solution one to six thousand, after which dull curette is introduced to locate any decidual tufts, polypi or granulating masses; sharp curette should then be used with slow, regular strokes from fundus to external os; mucous membrane should be stripped off thoroughly; when sides have been completed, fundus should be treated in the same manner, and successively curette should be rotated in each cornua; curette should continue till the sensation peculiar to the contact of the curette to muscular tissue is detected, and in all cases where uterus is not intensely softened, as in the puerperal state, there is a sound produced, harsh and grating in character, when the muscular wall is encroached upon by the curette; if, as in the puerperal uterus, the muscular wall is very soft and danger of perforation is great, a rather flat, broad and moderately sharp curette should be used, and great care should be exerted to detect immediately the sensation produced by the muscular coat upon the curette.

Though the danger of perforation by sharp curette is so loudly sung, in careful hands, skilled in such work, such an accident should never occur. After curettage, uterus should again be washed out with sublimate solution, one to six thousand, till water returns clear; vagina should then be thoroughly cleansed, and uterus well packed, as already described. Vagina should be loosely filled with strips of gauze, and vulva pad of sublimate gauze applied, to be changed every six hours; water should be drawn at each dressing, and dressings allowed to remain unmolested as long as temperature remains down, till four days have

elapsed, when it should be removed as before. If temperature remains up, which is unlikely, dressings should be removed after twelve or twenty-four hours, as indicated by temperature, and uterine cavity again douched with sublimate solution one to six thousand, and uterus repacked as before. If temperature remains down, dressings can be left from five to six days, when they should be removed with antiseptic precaution; this treatment being contined till recovery is complete. The gauze insures perfect drainage, and with this plan of treatment laid down, temperature quickly falls, and pelvic exudations soon disappear.

In the septic and gonorrheal forms peritonitis may exist, and if so, bowels should be flushed daily by salts; should nausea exist, precluding the use of salts, an enema of

Glycerine ..... oz. 6.
Oxgall (fresh) ..... oz. 1.
Rochelle salts ..... oz. 6.
Aquæ q. s. ..... qts. 1.
M. Use as one enema.

This should be given thirty inches up the bowels by high enema tube, and repeated as required.

By this treatment rest and comfort far greater than by morphine will be produced, and "nature's peritoneal drainage tube," as Lawson Tait has termed the intestinal canal, is constantly relieving the peritoneal cavity and general system of noxious material.

Beware of the delusion, often by temerity becoming a snare, of making applications of caustic agents to cervical canal as there exists authority from many writers.

The best result that can be hoped for by such treatment is temporary amelioration of the condition; if the simpler forms are not made septic by the absorption of necrotic tissue produced by these agents, it goes on from a simple congestion, thoroughly curable, to the atrophic form, virtually incurable.

Caustics destroy the mucosa, and in its place scar tissue is substituted, through which the patient is compelled to menstruate. The sufferings of such a one may well be imagined.

In the cervical canal the severe caustics lead to cystic degeneration of cervix, produced by cicatricial contraction closing the ducts of the cervical glands.

On the other hand, after curettage and gauze packing, the mucosa is regenerated, fresh and healthy.

APPENDICITIS, WITH REPORT OF CASES.

BY FLOYD W. M'RAE, M.D., ATLANTA.

While much has been written and said on this subject recently, I make no apology for bringing it before you, as there are many points still unsettled. This is especially true of the question of treatment. In addition to some of the results of my rather limited personal experience, I wish to present some tentative conclusions and opinions culled from papers and discussions which have fallen under my notice within the last few months.

Dr. Nicholas Senn, in the Journal of the American Medical Association, March 24, 1894, says: "It appears to me that it would be more profitable in the future for this department of abdominal surgery, to write less concerning individual experience, and elaborate more thoroughly, upon a pathological basis, the conditions which demand operation, viz.: the reasons for the necessity of operative intervention in order to convince the mass of the profession of the correctness of the ground taken by a number of surgeons, that the appendix should invariably be removed when it is the seat of an infective lesion. There are exceptions to nearly all rules, and the surgery of the appendix vermiformis has not advanced sufficiently to enable us to lay down cast iron rules *when* and *when not* to operate. Pelvic surgery has been degraded by the modern *furor operativus*, and the same fate threatens the appendix. The conscientious surgeon must bring his work in consonance with the pathological conditions which he is expected to correct or remove."

Whatever may have been the remote cause of diminished local resistance within the appendix, pathologists are almost, if not quite, agreed that the immediate or exciting cause of appendicitis is local infection. In by far the larger proportion of cases the *bacillus coli communis* seems to be the direct cause of the pathological condition. At least its almost universal presence, either alone or associated with the *staphylococci*, is generally demonstrable. In the fulminant cases, where the disease runs a rapidly fatal course, as Dr. Roswell Park suggested before the American Surgical Association last June, this bacillus seems to be the active agent in producing the local as well as the general infective peritonitis. In the localized abscesses around the appendix which pursue a rather mild course, it is very frequently absent. Here there seems to be a simple pus infection. Along this line of observation must we look for the clearing up of many mooted points which now confuse the physician and surgeon.

The diagnosis of the condition in question is not always easy, and mistakes are not infrequently made by surgeons of large experience. In children it is often confounded with intestinal obstruction, and sometimes, if recourse is not had to an early exploratory incision, the real condition must remain in doubt unless cleared up by an autopsy. When, however, the attack is ushered in by pain, usually epigastric, iliac tenderness, vomiting, fever and rapid pulse, the chances are that it is appendicitis.

Richardson says: "In all cases of general peritoneal infection in which the lesion is obscure, the possibility of an appendicitis must always be borne in mind. Pain is one of the most prominent as well as one of the earliest symptoms, though varying much in degree in different cases; often general in character or epigastric at the onset of the attack, it usually becomes localized within the first forty-eight to seventy-two hours in the right iliac fossa. In exceptional

cases the pain becomes localized in a remote region during the whole course of the disease.

Tenderness is of much greater diagnostic value than pain. It is generally most marked directly over the site of the appendix. Individual peculiarities must be taken into account in estimating the value of tenderness. Nausea or vomiting is an almost invariable symptom, and manifests itself soon after the onset of pain. The vomiting subsides in the majority of the mild cases in a few hours, though it is apt to persist in the fulminant cases where there is early infection of the general peritoneum.

The bowels may be loose or constipated in the beginning.

Richardson expresses the firm conviction that in every case where there is a localized peritonitis a perforation, either large or small, has preceded it.

The temperature may range from a very slight elevation to 104° or 105°. The temperature is not a safe guide as to the violence of the attack, the pulse being a rather better guide. The condition is serious if it rises to 115 or 120 beats per minute.

TREATMENT.—In the fulminant cases there is no question as to the proper treatment. Nothing but an early operation will save the patient. But in the milder cases there is much diversity of opinion as to how we should proceed.

Dr. J. B. Murphy, in a paper read before the Pan-American Medical Congress and published in the Journal of the American Medical Association, reported one hundred and forty-one cases operated upon by his colleagues and himself. One hundred and eight were his own individual patients. He lays down the hard and fast rule that every case of appendicitis should be operated upon in the following extract: "When should we operate? On every case of appendicitis, or better, on every case where we have present the four cardinal symptoms:

"1. Sudden attack of pain over appendix.

"2. Always nausea, frequently vomiting.

"3. Elevation of temperature.

"4. Exaggerated local tenderness in various positions occupied by the appendix."

He not only believes that the operation should be done in every case, but that it should be done immediately.

Dr. Maurice H. Richardson, after an individual experience covering one hundred and eighty-one cases, says: "Even with this large experience I still feel in grave doubt as to the proper treatment of certain cases. Many of my colleagues with large experience have expressed misgivings as to the many questions that have arisen from time to time as new or unusual conditions have appeared. The most positive assertions in connection with the treatment of appendicitis have been made, as a rule, by those of most limited experience. In my first paper upon this subject, published in *Boston Medical and Surgical Journal* of January 19, 1888, I drew five conclusions from the five cases I had seen up to that date. To one or two of these I still adhere; the others have been long since shown to be unsound."

Dr. Wm. T. Bull states his position very clearly in the following extract from the *New York Medical Record*, March 31, 1894: "All these operations have been done because of acute attacks so frequently repeated as to lead to the belief that there was a chronic appendicitis which had no tendency to disappear spontaneously or with the aid of medical measures. These attacks seriously interfered with the occupations of the patients. In most of the cases there was palpable evidence of chronic inflammation in the shape of a tumor in the iliac fossa and a history of chronic invalidism, in greater or less degree, marked by such symptoms as irregular pain or discomfort in iliac fossa increased by exertion, irregularity in action of the bowels, flatulence, pain and distention after eating. In about the same num-

ber of patients, eighteen or twenty, I have advised against operation because the attacks were at long or irregular intervals and few in number, and the condition in the interval was apparently one of good health, without tumor and without history of intestinal irregularity or pain."

Again he says: "We need more carefully recorded cases, not only of the patients who come to operation, but those who have successive attacks relieved by medical means. There are many gaps to be filled between the surgeon who operates only when there are definite symptoms of chronic disease which have been found by operation to correspond with definite lesions of the appendix, and those who resort to operation after one or two attacks, in individuals who have no symptoms, because they believe future attacks must occur in the order of nature and must endanger life.

"The position of the former may be too conservative, but I think it is up to date with the knowledge we have at the present. The attitude of the latter is unscientific, as their statements are not borne out by demonstration."

There is no question in my mind that by far the largest number of cases of appendicitis get well without operation, without falling into the hands of the surgeon, many of them unrecognized by the physician.

In the simple cases where a free purge is followed by immediate relief, and where resolution takes place readily and the restoration to health seems to be complete, I do not think an operation is indicated. I believe that in the present state of our knowledge an operation is unjustifiable. I believe that I am sustained in this position by both clinical experience and *post mortem* records.

In the fulminant cases immediate operation is the only hope for the patient. Localized abscesses should be incised and drained. In "chronic relapsing" or frequently "recurring" appendicitis, the appendix should be removed in the interval between acute attacks.

When there is a localized abscess, or where there is a general infective peritonitis, the operation should consist of simple incision and drainage, with thorough toilet of peritoneum and without an attempt at removal of the appendix, unless it presents in the field of operation and can be removed without breaking up adhesions which wall off the general cavity, or without unduly prolonging the operation. A secondary operation for its removal is much safer than to attempt an "ideal" operation at one sitting.

Dr. Miles T. Porter has found in investigating this subject 448 cases recorded. Incision and drainage give a mortality of eighteen (18) per cent. while removal of organ during attack gives a mortality of nineteen and seven-tenths (19.7) per cent.

Dr. Wm. T. Bull has collected statistics of 450 operations done during the period of quiescence, with a mortality of only 1.77 per cent. He thinks, however, a faithful report of all cases would give a mortality of five per cent. or six per cent.

My individual experience is confined to six cases of well defined appendicitis. I have seen several other cases where there were some indications of inflammatory trouble in the right iliac fossa, but no well defined lesion. They all got well. Of the six cases of appendicitis, one—a child of two years—died before I saw him after an illness of five days. From the history of the case, and a careful examination of the body, I had no doubt as to the diagnosis. Of the other five cases, two passed through one attack, one through two attacks, and one through four attacks of well marked appendicitis in my hands. In all, except one, I advised operation. All declined it. All, except one, are now in good health. The one who has had four attacks will undoubtedly require an operation later, as there is a well defined persistent tumor in the right iliac fossa.

The sixth case I present for your inspection. I first saw

her on February 24th, when she complained of slight pain in the abdomen. I prescribed a dose of salts and did not see her again until March 5th, when I was called and found her suffering with violent pain in right iliac region, nausea, subsequently vomiting. Temperature 101°, tenderness well marked over appendix, no well defined tumor. A free saline purge gave very slight relief temporarily. All the symptoms increased in severity until Wednesday morning, when immediate operation was determined upon. No tumor was discoverable at any time prior to operation. Condition at time of operation extremely unfavorable. Pulse 150, temperature 102, respiration bad. Abdomen enormously distended.

Operation March 7th. Ether. Assisted by Drs. Nicolson, Childs, Hubbard and Kennedy, of Atlanta, and Dr. Tankersly, of Ellijay. On account of extreme distention and uncertain diagnosis, I made a median incision. On separating the coils of intestines at least a quart of pus gushed out covering everything. I was unable to determine at the time of operation just what the origin of the pus was. All the viscera were so matted together that I could not tell one thing from another. I then cleansed the cavity thoroughly with hot water, sponged it out well, inserted a glass drainage-tube, closed the wound with silkworm gut sutures and dressed it in the usual way (gauze cotton and flannel binder). Removed glass drainage-tube and inserted rubber one on fourth day.

Recovery uninterrupted except for ischiorectal abscess from blind internal fistula which developed on thirteenth or fourteenth day.

During convalescence induration in right iliac fossa was quite well marked and confirmed my early diagnosis of appendicitis. The patient is here in excellent condition, and you see the result of the operation.

DISCUSSION OF DR. M'RAE'S PAPER.

Dr. W. S. Elkin, of Atlanta: The subject of Dr. McRae's paper is one of great interest to me, and one that I have investigated more or less on account of having had recently several cases of this trouble. I had intended to present a paper to the Association at this meeting on appendicitis, but regret that I did not have the time to prepare it. It is a question that we should thoroughly discuss, and throw as much light upon as possible.

I believe that the majority of cases of inflammation in the male within the peritoneal cavity, either localized or general peritonitis, is due to an inflammation of the appendix. In the female the peritonitis is usually the result of some irritation of the pelvic organs, but in the male, however, the majority of cases are traceable to some inflammatory condition of the appendix, and the question of greatest importance to the physician is when to operate. I have seen in the past six months a half dozen cases of acute appendicitis, three of which were operated on, but not until the appendix had ruptured, and a general suppurative peritonitis had developed; we operated too late, and the patients died.

In this connection I would report a case that I saw two months ago, in which I had the assistance of Drs. Hardon and Cooper. I was called to see the case on Friday morning, and found the patient, a girl fourteen years of age, suffering from pain and tenderness in the lower bowels; temperature 102°, bowels slightly constipated, no nausea or vomiting. She had menstruated eight months previous, and at the time I was called there was a slight show of the period. I thought her trouble was most probably due to a suppression or irregularity of the menstrul flow, as I discovered no localized dullness or soreness in the right iliac fossa. I gave her a mild cathartic, and her bowels moved satisfactorily during the night and the next morning. On

Saturday the temperature was 101°, and the patient expressed herself as being much more comfortable, and even at this visit found no localized swelling or induration about the appendix. The next day, Sunday, I was called by telephone and informed that the patient had not rested at all well during the night previous, but was comparatively easy at the time I received the message. On making my visit that day I found the patient's condition very much worse, and discovered at once that she had a general peritonitis. The abdomen was intensely swollen, very sore and sensitive, and for the first time I was able to elicit localized pain and dullness over the ileo-cecal region. I informed the parents that I was satisfied the child had a general peritonitis, most probably due to a rupture of the appendix, and nothing but an operation gave any chance of relief. Drs. Hardon and Cooper, who were called in consultation, concurred in my diagnosis, and we operated that evening, but the patient died the following day from septic poison due to the suppurative peritonitis. We found a ruptured and gangrenous appendix, with a general inflammation of the peritoneum. A large quantity of pus was found in the peritoneal cavity. I believe that the rupture in this case occurred on Saturday night, and had I been present at the time, and operated, the patient would have had a better chance to recover.

The lesson to be learned from this case is important. I am satisfied that if I ever have another case of appendicitis I shall be more careful to have the patient watched continuously by some trustworthy assistant or physician with instruments near at hand, and ready to operate in case there is any change in the condition of the patient to justify operative interference. It is impossible to tell just how long you are warranted in postponing an operation for appendicitis, yet at the same time it is difficult and frequently impossible for the surgeon to get the consent of the parents or friends of a patient who has but little pain and gives but

slight evidence of having any serious trouble. I believe if we wait too long, until the rupture has taken place, and a general peritonitis developed, in nine times out of ten the patient will die, even if the operation is skillfully performed. The best time to operate in recurrent cases is between the attacks, and in acute cases before pus forms or a rupture of the appendix occurs. While my experience has not been great with this special trouble, I have had several cases to recover without any operation, but I expect sooner or later to hear of recurrent attacks in these cases. I shall watch them closely, and if the trouble returns I will recommend an operation at once. If we wait until general peritonitis takes place, and then remove the appendix, the patient usually dies.

Many patients die from troubles denominated inflammation of the bowels, and physicians give death certificates to this effect, when in reality the trouble is due to some irritation about the appendix, probably rupture of this organ or an abscess. In reference to the causation of appendicitis, I wish to state that I do not believe that it is due altogether to mechanical influence, but may be infectious, in some cases caused by an irritation in the appendix from the presence of bacteria, and not necessarily from the presence of foreign substances. The following case I think illustrates this point:

I was called in consultation to see a case with Drs. J. B. Baird and V. O. Hardon of this city. The woman had been confined four weeks previous, labor normal, and with no subsequent inflammation of any of the pelvic organs. Four weeks after confinement the patient developed inflammation in the right side, a little external to the right iliac fossa. An induration developed, and later on the presence of pus was discovered. Whether it was an extra or intraperitoneal abscess, we were unable at this time to decide. We knew pus was there, and an operation was warrantable. Dr.

Hardon operated. We found in this case an intraperitoneal abscess that had been walled off, but I believe was connected with the appendix. The abscess walls were very thin, very much like soft paper, and in manipulating and washing out the abscess it ruptured into the abdominal cavity. The cavity was thoroughly cleansed, a drainage-tube inserted, and the patient put to bed in a good condition, but died in a few hours after the operation from shock.

This was a case in which no solid substance had been taken into the alimentary canal for at least four weeks, and no fecal concretions or foreign substance of any kind were found. I considered the case one due to infection, and not from any mechanical cause. In the other case referred to I found no concretions or foreign matter in the appendix.

I allude to these points to show that I do not believe it is necessary in cases of appendicitis for patients to have a bean or pea or hard fecal matter in the appendix to produce appendicitis.

Dr. R. E. Griggs, of Columbus: I had occasion last September to be called to see the case of a gentleman whose condition I diagnosed as appendicitis. His previous history had been attacks of colic, as he called them, localized in the right iliac fossa. I informed the patient of his condition, advised an operation, and gave him a saline cathartic. The next day he sent for me to operate and wanted it done at once. I called in Dr. Stewart in the afternoon who agreed with me, that the case was one of appendicitis, and the next day we operated by a lateral incision, Dr. Stewart performing the operation. The appendix was removed, and on opening it, contrary to the remarks of the gentleman who has preceded me, we found two or three small hard lumps of fecal matter, half the size of an ordinary pea. On closer investigation we found a hair almost as coarse as hog's bristle about an inch long. The cecal connection of the appendix was so much congested and in such a catarrhal

condition that the channel was entirely closed. There was no particular congestion of the parts excepting close up to the cecal region. This man recovered. He was a laborer by occupation and accustomed to doing hard manual labor every day.

The most remarkable feature in connection with this case, and in another one I will speak of, is the extremely low temperature connected with these cases, and I would be glad to hear from some of the other members on this point.

I was called to see a girl twelve years of age, who was suffering at the time with severe pain in the abdomen. I went into the history of the case and learned from the mother that she had repeated attacks of what she called colic. This little girl's pain continued all that day and night, and the next morning I informed the parents that the child evidently had appendicitis, that an operation probably would be necessary and should be performed at once. When I took a brother practitioner to see the case, and with the idea still of operating, advising operation, the patient was resting comfortably and was much better seemingly, and we decided to delay operation, thirty-six hours having elapsed from the time of my first visit. The family were not favorably disposed to an operation. In the evening I called again and found the little patient suffering considerably, although she had no elevation of temperature whatever. I returned to my office at once, called for Dr. Stewart, and on our return to the house of the patient we found every evidence of septic peritonitis, and considered it folly to operate then. The little child died the next morning about nine o'clock.

This was a case where the temperature did not rise at any time higher than 100°, and it seems to me it conclusively shows that we can have septic peritonitis from rupture of an abscess or of the appendix, and yet not have a temperature above 100°, or, at least, 101°. I would be glad

to hear from some other member present who has had experience in regard to the fact of lower temperature in these cases, as well as the time when to operate.

Dr. R. R. Kime, of Atlanta: I desire to make a few remarks on the subject of appendicitis. It is a very interesting one and concerns both the general practitioner and the specialist, and more particularly the questions of diagnosis and treatment. In thinking a little over the subject since it has been under discussion, the question arises with me, what similarity have we between appendicitis and salpingitis? What would you think of a gynecologist that would say every tube in which there is inflammatory trouble should be removed? Even if you had a severe salpingitis, would you advise removal of the fallopian tube? There are some important lessons that we can draw in abdominal surgery in connecion with the fallopian tube and apply them to the appendix.

As to the origin of appendicitis, it occurs to me that we can have it from various causes. In one case from the presence of infectious material; another from a simple catarrhal condition of the mucous membrane, and still another from a foreign substance in the appendix coming from the alimentary canal. And then also we may have an ulcerative condition of the mucous membrane of the appendix. If we have a simple catarrhal condition of the vermiform appendix, is it not possible for a man to recover from it the same as we have cases of simple catarrhal inflammation of the fallopian tube and the case recovers? We may have a case of infection of the appendix, and yet the infectious material may discharge itself into the alimentary canal, and the patient get well. Again, may we not have rupture of the fallopian tube and imprisonment, and if we have rupture of the fimbriated extremity, and it becomes encysted and walled off from the general peritoneal cavity, may not the patient recover? That brings us to the ques-

tion whether we have perforation of the vermiform appendix and discharge into the abdominal cavity. If you have a general peritonitis due to general septic infection, it is almost invariably fatal. The question comes up, how are we always to decide we have perforation of the appendix? This is a question very difficult to settle. As a general rule, where we have a case of inflammation of the vermiform appendix that has been improving gradually for four days, or a week or ten days, and grows suddenly worse, nine times out of ten the indication is that we have perforations of the appendix, and if the surgeon operates at once he may save the life of the patient. Do not wait half a dozen or forty-eight hours for consultation, but as Dr. Elkin has said, have your instruments in readiness and the patient under supervision of a trained nurse, and upon the first indications of the patient rapidly growing worse, the surgeon should proceed immediately to operate, before general peritonitis has developed. By so doing he may save the life of the patient.

Dr. Wm. P. Nicolson, of Atlanta: I did not expect to say anything on this subject. I have had a limited experience with appendicitis, but I only rise to controvert the rather dangerous teaching my friend, Dr. Kime, has just formulated. Statistics undoubtedly show that cases of appendicitis do get well at times, but perhaps the larger proportion of statistics show that the appendix is always subject to future trouble, and that the attacks become progressively worse. And the trouble in delaying surgical interference is the history of Dr. Griggs's unfortunate case, where it was apparently getting better, and as the condition of the appendix was improving, the patient was getting worse and finally died. I think that waiting for the appendix to rupture before undertaking an operation is nothing more nor less than trifling with the life of the patient, because when the shock of perforation into the

peritoneal cavity has taken place the mortality is enormously increased. Fortunately, I have not had very much experience with appendicitis, but I do believe, considering the small danger attached to opening the abdominal cavity and making an exploratory operation, that it is the duty of every man to offer to the patient an operation, and let the responsibility of refusing it rest with the patient. In the future when a case comes under my care that I believe points strongly to appendicitis, I shall place the responsibility of the refusal of operation upon the patient or family.

As far as the temperature is concerned, I agree with Dr. Griggs that we frequently have serious and alarming trouble in cases where there is low temperature. Again, I think the temperature is a very excellent guide in what is known as relapsing appendicitis. I have seen two cases of this variety, one where the man had an abscess that opened externally. I saw him seven months afterwards, and he had not been free from trouble since. Operation was urged in his case, but was declined.

I saw another case of what we term progressive recurrent appendicitis. There was a slight colicky attack one month after another, the patient gradually getting worse and worse, finally the abscess opening externally. The patient, after this, was well enough to resume his work, but a second abscess formed, was treated, and he went to work again, when a third abscess formed. He came to me after a ride of twenty-five miles through the country with a small sinus below Poupart's ligament. A probe could not be introduced more than one inch, and it was a weeping sinus, which discharged about ten drops of pus in about twenty-four hours. The patient had a temperature of 100°. I advised removal of the appendix. We operated and found the appendix ulcerated, hanging behind the colon into an abscess of about six inches up the colon,

holding about four ounces of pus, with a thick membrane lining it. Between his attacks, he had been carrying the pus cavity all the time. Since the removal of the appendix the patient has been in good health, and I learned that at the first abscess there were found seeds of some kind, which they thought were blackberry seeds. Whether they were such was not definitely determined. I do believe that the most alarming danger to the patient that can possibly arise is for the surgeon to be waiting developments in appendicitis, because, if you are waiting, the first thing you know the patient has reached a point when operative procedure is doubtful, for if you operate you are liable not only to lose the patient, but to bring discredit upon surgery and your work. I do not believe there is a doctrine before the profession more emphatically taught now, than that in cases of appendicitis we should operate early. In these cases no trouble can come practically from opening the abdomen. If you find nothing wrong, you can easily close it up.

I had a case in my practice, a few weeks ago, where a man had a fecal fistula discharging over the sacrum and on the thigh. Being able to trace it inwards, I thought it came from the appendix. I opened the abdomen and found the appendix healthy, making simply an exploratory operation. After lying down for one week the patient was absolutely well, illustrating the fact that in these cases there is practically nothing to be lost by early operation, and, as a rule, there is everything to be gained both by the surgeon and the patient by exploration.

Dr. H. P. Cooper, of Atlanta: I have listened with a great deal of interest to the reading of Dr. McRae's paper and also to the remarks that have been made since then. I have had a few cases of appendicitis come under my observation in the past twelve months. I have formed some opinions which I did not have previous to having these

cases. In the last six months I have operated on two cases of appendicitis with, I am sorry to say, fatal results. Both cases were operated on when the patients were in extremely grave condition, as in the case narrated by Dr. Elkin—patients with perforation and general septic peritonitis.

In the first of these cases there was some light thrown on the causation by finding free in the peritoneal cavity, surrounded by shreds of membrane, three hard fecal masses. In the second case the perforation had allowed nothing to escape into the peritoneal cavity except pus. There was no concretion, no seed of any sort, nothing whatever in the appendix. In the second case there was perforation at the outer end of the appendix which readily admitted an ordinary grooved director. At a point half an inch from the junction of the appendix and the cecum there was a necrotic spot the size of my little finger nail, barely covered in by the sloughing membrane that would have been a perforation in twelve hours more. There was nothing present in the appendix to have caused a perforation. I hold to the view expressed heretofore as to the etiology. Some cases are caused by mechanical means, first setting up a catarrhal inflammation of the appendix and then ulcerative appendicitis, as in the case of a foreign body or fecal concretion in the appendix. Other cases, on the contrary, are purely due to some infectious process in which bacteria at some period have found their way into the appendix, and there multiply and cause necrosis of tissue, followed by perforation. I have formed decided views as to operating in these cases of appendicitis with perforation and general peritonitis. I believe that you will not save one case out of ten under the circumstances, more likely not one out of one hundred, and yet I would always hold under those circumstances that an operation should be done if a man is willing to load his statistics with fatal cases, and he should always

be willing to do that if he gives his patient a chance. There is no more hopeless picture presented to the doctor than a man with perforation of the appendix and general suppurative peritonitis. I do not believe such cases will recover. I am not speaking now of local peritonitis shut off by adhesions and the formation of local abscesses. Where you have pus diffused throughout the peritoneal cavity, the outcome is hopeless; yet in those cases, if we believe the patient's pulse and respiration will carry him through an operation, we should give him the slight chance for life which an operation undoubtedly holds out to him. I operated on such a case as this about four weeks ago in a neighboring town. I went there about one o'clock in the morning and met physicians in consultation. One of the three physicians agreed with me as to the diagnosis of appendicitis. The others did not reach any positive conclusion except that the patient had some grave inflammatory condition which would soon cost him his life. I took the view that we had a case of general peritonitis probably dependent upon appendicitis and advised operation, at the same time telling the family that there was only the faintest hope of success from opening the abdomen. The abdomen was therefore opened, and we found perforation of the appendix with an intensely septic peritonitis. The patient made a most excellent recovery from the operation, the pulse and respiration became good, but he succumbed eighteen hours later. In these cases of general peritonitis that die after operation, I think there is one cause of death which we frequently overlook. At the conclusion of the operation we are in a great hurry; the patient is in a desperate fix. We are anxious to close the peritoneal cavity and get the patient to bed. There is a strong tendency on the part of practitioners to neglect the toilet of the peritoneum. In those cases with adhesions between the coils of intestines, every time we break up an adhesion there is a fresh pocket

of pus. The only chance to let that patient live is to empty every pus pocket. In a case I operated on last fall, assisted by Dr. Elkin and others, we found as we went on separating the adhesions everywhere, that pus would gush out, and we finally concluded we had better stop; just about that time one of the doctors present put a sponge deep down into the pelvis, and to our mortification another collection of pus was liberated. We finally completed the operation, The patient never rallied, and did not regain consciousness.

I have come to the conclusion that if I am called to another case of appendicitis, and it does not yield to a purge of calomel or oil, and a little mild narcotic to secure quiet, and relief is not secured in twenty-four or forty-eight hours, I shall do as Dr. Nicolson suggested: Place the responsibility on the family and insist on immediate operation. If the patient is not relieved by this treatment you will, in the majority of cases, get perforation, and then you have carried the patient to a point where recovery is almost impossible.

Dr. Geo. H. Noble, of Atlanta: I would mention a symptom that I have noticed in several cases of appendicitis, more particularly in recent cases of abscesses from the appendix,—that is mobility. It is a sign that has enabled me on one or two occasions to distinguish an abscess from that source from post-peritoneal abscesses. In the case Dr. Elkin mentioned to-day my diagnosis turned on that point. I found in that case that the abscess could be moved quite freely in the rear of the posterior-superior spinous process of the ileum to a short distance in front of the anterior-superior spinous process. The other symptoms pointed to post-peritoneal abscess, but I thought in this case mobility was too free for post-peritoneal abscess. As a means of distinguishing between intra-peritoneal and post-peritoneal abscesses, it may be found quite sure.

Dr. Willis F. Westmoreland, of Atlanta: In the treat-

ment of appendicitis I expected to hear the essayist speak of extra-peritoneal abscess. There are a good many of these cases in my experience in which we have abscess outside of the peritoneal cavity. They are as numerous, perhaps more so, than the strictly primary cases of appendicitis. I would like to hear some one discuss the matter of how to deal with the appendix in such cases. My experience is that it is well to let the appendix alone, provided it is adherent. If there is any great amount of adhesions, after opening the abscess with a free incision, pack it with iodoform gauze, letting the appendix alone if it is found on examination to be adherent. If the appendix, on the other hand, is freely movable, take it out, or if it is full of pus evacuate it.

My experience is and has been that I rarely see a case of appendicitis in the primary stages. They either come to me when the appendix has ruptured into the abdomen, or where there is the formation of a circumscribed abscess. In those cases where rupture has occurred, where there is general infection of the peritoneal cavity, I have lost every patient I have operated upon. I have made it a rule—and I expect to be governed by it in the future—in those cases where the temperature is subnormal not to operate on them.

Dr. J. C. Avary, of Atlanta: I desire to say a few words on the line of what Dr. Westmoreland has said, and, in the first place, in dealing with those cases where we have general peritonitis, the patient below par, I think it is only proper to deal with them as we would with any large abscess without subjecting the patient to the technique of a classical operation, opening the cavity and allowing thorough drainage without searching for or removing the appendix, then washing out the peritoneal cavity with Thiersch's solution, or a solution of peroxide of hydrogen, as may be deemed best. By so doing you do not carry your

patient down to the lowest ebb of vitality. I had one case of that kind in which the result was very satisfactory. There was spontaneous healing of the fistula in five or six days, from which pus came in great quantities.

I had another case something like the one Dr. Westmoreland spoke of, where there was a superficial abscess cut off from the peritoneal cavity, and in which there was very little disease of the appendix proper; but in addition to a subacute inflammation of the appendix, and it being somewhat movable and down in the back part of the pelvis, low down, there was also a complete occlusion of about twenty inches of the intestines, completely shutting off the arterial supply. The gut was entirely clear of arterial blood. There was no venous blood left in it. By breaking up the adhesions we restored the circulation and the patient made a good recovery. It has been six months since operation, and the patient has had no untoward symptoms. A short time ago he did have a little constipation which was easily remedied.

Dr. Kime has suggested expectant treatment, waiting for heroic measures. If we do this, we will do away with what advancement surgery has made in the way of diagnosis, leaving patients at the mercy of chance. I would by all means resort to the measures recommended by Dr. Nicolson, namely, of making an exploratory incision and seeing what is to be done.

Dr. McRae (closing the discussion): The especial reason why I presented this subject was because of the diversity of opinions which I knew would be expressed. It is not because I have had a case get well, or Dr. Nicolson or Dr. Cooper has a case that gets well, or some one else has a case that dies, that we should reach hasty individual conclusions. We should collect statistics, not only of the cases that come to operation, but those that do not come to operation. Then, if these statistics are thoroughly

analyzed, we may be able to arrive at a definite conclusion as to what we should do; whether we should always operate at once or do, as is now advised by many able surgeons in this country, not operate in those cases that are relieved by simple medical measures within the first two or three days of progress of the disease.

I wish to present certain statements which are borne out by *post mortem* records. It has been estimated that in from twenty-five to thirty per cent. of autopsies there are evidences of appendicitis having existed at some time or other during the life of the individual. This shows what a wonderful prevalence there is of slight inflammation in this region, and the patients recover, live out their time, die from other causes, and we find this condition *post mortem*. In my dissecting-room experience I have made careful observation of this fact, that in about twenty-five per cent. of all of the cases there was evidence of pre-existing pathological lesions of the appendix which had recovered.

As to fecal concretions, there is a diversity of opinion. In my paper I stated that it matters not what the cause was which led to the lessened local resistance within the appendix, that the immediate cause of the inflammatory trouble was infection. I am not alluding here to simple catarrh of the appendix, which we may have associated with catarrh of the intestines. We may have a localized lesion from a concretion, or it may be from a simple ulcer or foreign body lodged within the appendix, but the active agent is a local infection, either simple or by the *bacillus coli communis*, and in the large proportion of cases I think it is the latter. In all of the fulminant cases, with few exceptions, this *bacillus* has been demonstrated in the secretions not only from the cavity around the appendix but in the general peritoneum.

The point made by Dr. Griggs is a good one. The

temperature is no guide. Some of the most terrible cases have slight or no elevation of temperature, while some of those that get well have a high fever. The temperature is therefore no reliable guide either as to the diagnosis or as to the danger. Dr. Richardson says, where we have peritonitis localized, it is his firm conviction that it has been preceded by rupture of the appendix.' It is not rupture of the appendix that takes place later, but rupture of the abscess that has formed around the appendix, and that takes place into the general peritoneal cavity, and only a few such patients will be saved by operation.

In children, where these symptoms appear, I do not think there is any time for temporizing. The history in these cases is that they usually die unless relieved by operation. There are comparatively few that do not die where these symptoms are present. It is not an infrequent condition in childhood.

The point which Dr. Westmoreland has raised is one I brought out in my paper, and if the paper has anything to commend it, it is that one point. It is not from my own experience, but it is culled from the experience of surgeons throughout this country and Europe. Where you have an extraperitoneal abscess, or an abcess which has ruptured into the general, peritoneal cavity, the general septic infection of the peritoneum, the time for ideal surgery has passed. The thing then to do is simply to incise, cleanse and drain. Let us take, for intances, an extraperitoneal abscess with the appendix walled in by adhesions; if you go to work and break up these adhesions and remove the appendix, what have you done? You have simply turned pus into the general peritoneal cavity, which will kill your patient. The thing to do, therefore, is to drain. Unless the appendix can be removed without breaking up the adhesions, it seems to me it should not be tampered with. That is the opinion of many of the best American surgeons.

MAKING AND CLOSING THE INCISION IN ABDOMINAL SURGERY.

BY J. B. S. HOLMES, M.D., ATLANTA.

I hope I may be pardoned for taking the time of this Association by bringing up a subject upon which so much has been written and said. Many surgeons, in doing abdominal work, pay more attention to time than the details that are necessary to secure results that are free from sequelæ. This not only reflects seriously upon the surgeon, but leaves the patient, in many instances, a sufferer for life, requiring often a second operation to cure what might have been prevented.

A smooth wound, with no cicatricial tissue, no abscess scars and no ventral hernia, is a pleasing sight, not only to the surgeon, but the patient. Notwithstanding the scar or hernia is unseen by the public, the consciousness to the patient, especially if a woman, that it exists, to say nothing of the inconvenience, discomfort and pain from it, is always a source of mortification and sorrow. They place more stress upon these than we realize. A surgeon, like the mechanic, is, to a great extent, judged by the appearance of his work. How soon will short, deformed and crooked limbs, following fracture, destroy the reputation of the general surgeon. Then, why will not stitch hole abscess, painful indurations, ugly and tender cicatrices and ventral hernia react upon and damage the professional skill and reputation of the abdominal surgeon? The prevention of these sequelæ is my excuse for trespassing, if it

prove to be such, upon your time. I do not, of course, pretend to say that they can always be prevented, but certainly with proper care and attention to the technique of the operation, if not prevented entirely, they can be reduced to a minimum. In pus cases, the abdominal walls, despite every precaution, may become infected, causing suppuration, followed by the unpleasant results already alluded to. The prevention of these sequelæ begins with the surgeon's hands, instruments, and in fact with everything connected with his paraphernalia. Simply washing his hands with soap and water will not answer. The hands and arms should be thoroughly scrubbed with a brush and green soap and alcohol, repeating this several times, paying especial attention to the nails, a neglect of which, however perfect the balance of the detail may be, will result in disappointment in failing to secure ideal surgery. After this thorough scrubbing, wash well in a hot solution of bichloride, 1 to 1000, then in hot sterilized water, which I always use, not only just before beginning my surgical work, but also to immerse my hands in during the operation, as I never put a chemical of any character, however weak, into the abdomen. All instruments and towels should be thoroughly boiled. Sponges, pads, sutures, etc., must be known to be in an aseptic condition. The proper cleansing of the abdomen is too often overlooked. I think here is the source of much disappointment in doing ideal work. The skin, with its layers of epithelial scales, serves as a hiding place for *débris* and bacteria. How easily can they be carried by our hands and needles into the tissue and peritoneal cavity. After a thorough bath all over, liquefy the fatty deposits in the skin by rubbing well with oil of turpentine, then scrub well with tincture of green soap, then remove remaining fat with ether, after which wash with solution of bichloride, 1 to 1000, then cover the abdomen with a wet bichloride towel, 1 to 1000, except

in the line of the proposed incision. In cleansing the abdomen of course the greatest care should be bestowed upon the umbilicus. If special attention is not paid to this, septic material will be sure to be left in it. In cleansing the abdomen I never leave it to an assistant or nurse, unless under my own supervision, for a neglect to do it well is sure to bring disappointment. In making the incision use a sharp knife, making the cut with one sweep of the knife, from one end of the wound to the other, continuing this till the peritoneum is reached. Clipping a little tissue with the scissors, raising it with the grooved director, and cutting with knife or scissors, tearing with the fingers or handle of your knife is to be condemned, as it leaves rough, jagged edges that will fill with small blood-clots, prevent perfect coaptation and consequently we fail to get primary union, to secure which a smooth, even surface is essential. Control all hemorrhage before the peritoneal cavity is opened. Do this, if possible, by hot sponges, avoiding if you can all ligatures and compression forceps. When ligatures are necessary, use the finest silk and cut them short. If the pressure forceps are required, two or three minutes is sufficiently long to leave them on to completely stop the hemorrhage. Longer pressure frequently results in tissue necrosis and mural abscesses. Especially is this apt to occur where pressure is used in the fatty tissue, for we must remember that this is little less than oil globules in loose connective tissue, poorly supplied with nutrient blood vessels and consequently of low vitality. Make your incision, when possible, directly in the linea alba.

You then have no muscles to cut, no fascia in front or behind the muscle, to divide, with its consequent uneven and irregular retraction, which makes it almost impossible to get satisfactory apposition. Unfortunately, many good surgeons place too little stress on the linea alba. The

strength and support of the abdomen is not from the muscles but from the fascia. However well the muscles unite, if the fascia does not, we are sure to have hernia. The linea alba, as you know, is the aponeurosis of the oblique and transversalis muscles, with no muscular tissue in it. If the incision is made in the median line, you should have no difficulty in finding it. When the peritoneum is reached, raise it with the catch forceps and clip it with a scalpel. Insert your finger in the abdomen as a guide, then slide knee bent scissors upon it, enlarging the opening in one or both directions, as you like. By slipping the finger along the peritoneal wall of the abdomen, as a guide, it is impossible to do damage with your scissors to the viscera. As to the length of the incision, there is still much dispute, both as to the mortality due to, and the post operative sequelæ attributable to it. Long incisions are to be avoided, when possible, for numerous reasons. The increased exposure of the intestines and peritoneum to the air, the constant manipulation necessary to keep the intestines in the abdomen, the prolonged anesthesia required for closing the wound, all add greatly to the shock. Ordinarily, an incision, for the removal of ovaries and tubes that will admit two fingers is sufficiently long. The educated surgical finger will break up adhesions without seeing the viscera. Universally adherent or solid tumors, or adhesions to the small intestines, require larger incisions, and ocular inspection may be necessary. We should, however, in all cases make the incision sufficiently large to do the work with ease, for in attempting to work through a small opening the peritoneum and other tissues may be bruised and seriously damaged. The first step in closing the incision is to be assured that all hemorrhage is stopped; then thoroughly cleanse the edges of the wound with hot sterilized water, removing all blood-clots.

In the manner of closing and the material used there is

still a great difference of opinion among many able operators. Too much surgery is bad; therefore, the simplest suture that will accomplish the best results is to be preferred. I use exclusively silkworm gut as a suture, and thus far have used only the through and through method. I have had no occasion to regret this course. In some fat subjects, or where the incision had to be made through muscles, with the consequent uneven retraction of the fascia, I might use the several layers of buried suture, and in this event would use a very fine silk of the kangaroo tendon. The time required for absorbing silkworm gut is too long, and the catgut I regard as not reliable. I have had no experience with the buried suture in abdominal work, but my results with it in perineal work have not been satisfactory. I can see no advantage whatever to be gained by suturing each layer of tissue separately, except in the class of cases already referred to. The operation is sure to be prolonged and a lot of slow absorbing material is left in the tissue that may set up irritation and prove troublesome to remove. Abscesses often form as a result of this irritation and hernia frequently follows. I use a long, slightly curved needle without a cutting surface. Needles with cutting surfaces frequently cause hemorrhage in the abdominal wall and abscesses result. With the index finger of my left hand in the abdomen and the thumb on the skin, the peritoneum and skin are slightly retracted. The needle, armed with silkworm gut, is then passed through the skin about one-quarter of an inch from the margin, and with the concave side looking toward the incision is passed through all the tissues and is brought out through the peritoneum one-eighth of an inch from the margin. If the abdominal walls are thin, then the needle is carried through the tissues on the opposite side before withdrawing it. After all the stitches are passed the ends are brought together and some traction made. It will be

seen that the peritoneum fascia and all intervening tissues are brought together before the skin is. You will see, while we have only a little peritoneum and skin included in the suture, we have quite an inch of intervening tissue, and as the traction of the suture is almost entirely on the fascia and muscle, we are sure its apposing edges are held together. A good union results and the strength of the abdominal wall is maintained. Before the stitches are tightened we must see that all the tissues of like character are in apposition. This must not be overlooked or neglected; otherwise a weak wall is the result, and hernia will likely follow. All the ends of the sutures are brought together and gentle traction made. If we are sure that the tissues are in proper apposition, the sutures are held by an assistant, and I now tie, usually beginning with the lowest and working upward. When the first stitch is tied the knot is on the skin, resting against the second stitch; as the suture is tightened, it is allowed to glide downward on the skin till it reaches its proper place. Each suture is then treated in this way till the wound is closed. If you have never tried this gliding suture, you will be surprised to see how beautifully the edges of the skin are brought in apposition. Should the skin on the entire line of the incision not be brought perfectly together, a few superficial sutures of the finest silk may be inserted. Do not draw your sutures too tight, not enough to pucker the skin, or they will give great pain, compress the subcutaneous fat and produce mural and stitch-hole abscesses. I allow my sutures to remain from six to nine days. If the patients present no symptoms to cause me to suspect wound irritation, the dressings are undisturbed until the sixth or seventh day, when every alternate deep and all superficial sutures are removed; two days later the others are removed. If there is any temperature after the third day, I remove the dressings and examine to see if there is any suture

irritation. If so, I remove a part of them, leaving enough, however, to give support. The incision, after the sutures are applied, is dressed with iodoform; then a pad or compress of sterilized gauze is placed over this and then bichloride cotton. I then apply across the abdomen, but not too tight, three or four strips of adhesive plaster about two inches in width. These are fastened to the sides of the patient, and are intended to take the tension and strain from the stitches in case of severe vomiting or great distention from gas. Finally a soft flannel binder is applied and the patient put to bed.

I again ask your pardon for bringing up a subject so old, but nothing pays so well as the little details in our surgical work, and especially is this true in caring for the incision in abdominal work. It not only gives good results so far as the future of the patient is concerned, but when she sees that her wound is healed without suppuration a fine effect upon her is produced. If there is even a stitch-hole abscess that requires care and attention, my experience has been that it has quite a depressing effect upon the patient, despite all your efforts at explanation. She feels that in a measure your operation has been unsuccessful.

CANCER OF THE UTERUS. THE REMOTE RESULTS OF OPERATIVE INTERFERENCE.

BY W. A. CROW, M.D., ATLANTA.

The reason no doubt that we see from time to time some vaunted treatment for cancers is largely due to the unsatisfactory results that have so far been obtained by any known remedy or course of treatment. At the tenth annual meeting of the Italian Surgical Society, held at Rome, this subject was fully discussed, especially with reference to the performance of hysterectomies. Professor Durante reports a number of cases of hysterectomies for cancer of the uterus, and says: "In most of these cases the disease returned, and death occurred in from six to twenty-four months after the operation, and in only two cases, four years having passed, has the patient remained perfectly well since."

Professor Gasselli confirms the views expressed above as the result of his experience, and says: "In view of these results he did not feel justified in recommending the operation, and had only operated at the patient's express desire. The age of the patient is more important from the point of view of the prognosis of such an operation than the extent of the disease; the younger the patient the more rapid the relapse." Professor d'Antona admitted that his experience from operations for cancers was extremely gloomy; that he had performed five hysterectomies for uterine cancers since the first of the year to October 27th, and in three of these cases the disease recurred in five months, and in one of these the operation was performed so early in its evolution

that a diagnosis was only arrived at by means of a microscopical examination.

A. Martin, of Berlin, in his work on Diseases of Women says: "In regard to adenomata, that the prognosis is not absolutely unfavorable during the earliest stages, while for the fully developed forms it must be characterized as such." In its earliest stages he advises thorough curettement, then cauterize the raw surface with liquid ferri; but in pronounced and fully developed forms he always looks to total extirpation for radical treatment. He reports operations on six cases of pronounced adenoma, and thirteen times in the earlier stages where there was a considerable increase of the glandular apparatus of the corpus, leaving hardly any normal interglandular tissue remaining in the mucous membrane. Of these nineteen cases operated on, three (3) died of the operation itself, one dying septic, and two in consequence of fatty degeneration of the heart, which was the result of the anemia; two (2) were attacked soon after by carcinoma in the scar; the others (14) recovered and remain permanently healthy.

In carcinoma of the collum, out of twenty-eighty (28) cases of Martin's, where he attempted total extirpation, where the disease extended beyond the uterus, eighteen of those in whom a small portion of the disseminated cancerous disease remained after the operation did not survive the latter, but died within the first two weeks. He qualifies this by saying: "These results of mine are seen in their true character only when contrasted with the fact that of sixty-six (66) *complete* extirpations (of diseased tissue) for carcinoma only eleven (11) were fatal."

Dr. Barker, of Boston, reported in the *American Journal of Obstetrics* in 1888 fifty-seven (57) cases of high amputation with the thermocautery; of this number he reports two (2) deaths, and twenty-nine (29) cases in which the disease has returned during a period of one to fourteen

years, leaving the remaining twenty-six apparently cured. *While Leopold in his last series of eighty cases of vaginal hysterectomies lost only four (4) cases from the immediate result of the operation, and of these seventy-six recoveries, dating back from one to five and one-half years, fourteen have since succumbed, but only ten of this number died from a return of the cancer, leaving sixty-two still surviving, with only three recurrences of the disease.

In considering these cases we must bear in mind the tendency to become prejudiced and led astray by the unfavorable opinions of one operative procedure in contradistinction to other methods, both in regard to immediate results and respecting relapses. For, as is universally admitted by all operators respecting the special operation advocated by each, that the general condition of the patient and the earlier in the stage of the disease when operated upon, the more we may hope to gain satisfactory results, both immediate and remote.

Our statistics, as has been aptly claimed by Lawson Tait, often "show more the mortality inherent to the operator than to any special mode of operation." But by taking together the results of all and classifying the stage of the disease when operative interference was resorted to, we feel assured in making the statement that the relief obtained by proper operative methods early in the course of the disease is equal to that of any treatment for similar conditions as found in the breast or any other portion of the body.

Taking the view as is pretty generally accepted by good authority that cancer in the beginning, as a disease, is purely local, while if left alone the result is always fatal, the profession at large should be more on the alert in recognizing this terrible disease at the earliest possible moment, so as to give the unfortunate patient the benefit of what the science of surgery can so far offer in the way of a cure,

* Thomas & Munde, Diseases of Women. 17

if possible; otherwise in retarding the ravages of the disease and ameliorating the suffering incident thereto.

The records of my clinic for the last year show five (5) cases as cancerous, being nearly two per cent. of the whole number applying for treatment. I wish also to include in this group three cases that I have seen in private practice in the last eighteen months, making seven (7) in all. Only one of this number realized what her trouble was when I first saw them, and she was beyond the possibility of being relieved; another almost as far advanced had been under treatment in this city for the past year for what she called the "change of life"; she had a continuous flow dating back four months at the time I was called to see her, which was in September, 1893. Examination revealed cancer of the cervix (epithelioma), reaching up to the internal os, with induration involving base of bladder and broad ligament in right side. I could not promise her anything from an operation; the disease involved too much adjacent tissue. This opinion was sustained in consultation, and it was four long months she continued to suffer before the end came.

CASE 3.—White, age forty-four, presented herself at my clinic in October, 1893. On examination I found cervix ulcerated on one side and covered with exuberant granulations, giving it very much of a strawberry appearance, also a bloody-watery discharge from the vagina. I advised an operation at once, but she refused, and passed from my care, after consulting another physician, who promised a cure by local applications. I did not see her again until two months ago, when she came back to ask my opinion as to whether I thought she was improving. It was a sad task. The disease had steadily advanced, and she will soon succumb to its ravages.

CASE 4.—Colored, primipara, age forty, came to my clinic in February, 1893; condition as follows: cervix hard to touch and hypertrophied, some excoriation, suffered pains

of a sharp lancinating character, watery vaginal discharge often tinged with blood, also menorrhagia. She was operated on the following week, a high amputation of the cervix, she made a prompt recovery and has remained well since.

Case 5.—Negro, age fifty, history imperfect. She dates her trouble back three months, when she began to have dribbling of the urine. Examination revealed an ulcerated condition of the cervix and upper anterior portion of the vagina of a yellowish gray appearance. It had destroyed the whole anterior portion of the cervix and adjacent wall of the bladder, with nodular induration extending high up on each side. It was thought to be cancerous in its nature and beyond any hope of relief.

Case 6.—Mrs. ——, white, age forty-five, mother of four children, one miscarriage, last pregnancy fifteen years ago; mother died of cancer of the uterus; for the past three years she has suffered with menorrhagia, more or less constant pain, neuralgic in character; for the past year (preceding January, 1893) she had had an offensive watery discharge, often tinged with blood; general condition getting worse, becoming more and more anemic. Examination revealed uterus large and heavy, painful to touch; passing the sound would cause an offensive bloody discharge and great pain. In consultation with Dr. Hardon it was thought best to curette, which was thoroughly done removing the entire endometrium down to muscular structure, and then swabbing out the cavity with pure tincture iodine. Her condition became better. Temperature at the time of the operation 102° F. A local treatment of iodine applications and glycerine was kept up for several months; the immediate relief of pain and regaining her strength was very marked, and now she is apparently well, sixteen (16) months having elapsed. The section for microscopical examination

in this case was not satisfactory, still I feel justified in reporting it as a possible adenoma which, if it had not already taken on a malignant type, would soon have done so.

CASE 7.—Was very much the same as Case 6. I curetted and swabbed out the cavity with co. tincture iodine two months ago; have since followed by a local treatment as indicated in the preceding case. She has been relieved of the pain and flow, which had been continuous for three months preceding the operation, and is fast regaining her strength; the time being too short to report anything more than the immediate relief.

My object in reporting this series of cases that have come under my care of late is to impress two facts: one, the common occurrence of this disease, especially in women nearing the menopause; and the other, the great disposition to overlook their true nature or probable tendency, and to incline to use palliative measures until the disease assumes a malignant form, and we thereby lose our golden opportunity of effecting a cure in most cases.

The diagnosis early in cases of cancer is not always easy and never with any degree of certainty without the use of the microscope. Yet in a great many cases the transition from the benign to the malignant form of ulcer or inflammatory condition, such as we see in cases of slight glandular metritis, which, when becoming more marked, becomes a typical benign adenoma, then by degenerating, assumes the characteristics of a malignant adenoma, or so-called glandular epithelioma, which constitutes the first stages of cancer. So unsuspecting do we often see these gradations slipping from bad to worse that we should forever be on the alert, and try and remove in the most approved and scientific way every condition of disease structure that might degenerate into the most horrible of all diseases—a malignant cancer.

On account largely of our failure to always to recognize the disease early in its incipiency, we may expect a high mortality, even with our operative interference. "But even loaded thus with a terrible death-rate, it may be urged that it is performed for a certainly fatal disease; a complete success is a life saved; a failure is an act of humanity in relieving pain and prolonging life for a short time or simply an accelerated dying."

OPERATION FOR FIBRO-CYSTIC SARCOMA INVOLVING THE RIGHT INFERIOR MAXILLARY BONE.

BY J. M'FADDEN GASTON, M.D., ATLANTA.

A colored woman, thirty-five years old, with regular menstruation, and having borne several children, enjoyed general good health until a tumor made its appearance several years ago, for which she underwent an operation for partial removal of the right lower jaw. She presented herself with a reproduction of the growth at the clinic of the Southern Medical College on January 24, 1894, and upon examination I found a large mass involving the region from the angle to the mental curve of the right lower maxillary bone, extending upward to the zygomatic arch and inward to the root of the tongue. There was a protuberance of indurated substance in the middle and a tense elastic portion above, with a larger formation of the same character below. The last two named developments were evidently cysts, while that which lay between them gave the impression upon palpation of the consistence of cartilage. The entire cavity of the mouth on the right side was filled with the tumor. There is a cicatricial line extending from the middle of the lower lip along the margin of the right jaw to near its angle, which indicates the incision made in the previous operation performed about two years ago. The patient states that the growth commenced some years prior to that time. The exact limits of the primary

growth, or the details of the extent of the measure adopted by the former operator, could not be accurately ascertained, but it is evident that all the diseased structures were not removed, and hence the redevelopment of the tumor. The indications led to the view that the new growth was a fibro-cystic sarcoma, and that its early removal was the only chance for prolonging the life of the patient. Upon informing her and her husband of the certainty of a fatal result without operation, and of the risk to life from the removal of the tumor, they took the matter under consideration, and subsequently notified me that she would prefer to avail herself of the operation before the medical class.

Accordingly, she was instructed to take two compound cathartic pills night and morning, to procure free evacuation from the bowels, and to refrain from food on the morning of the 31st of January, preparatory to undergoing the operation at my regular clinic on that day.

The field of operation having been thoroughly cleansed, a hypodermic of one-fourth grain of morphine and one one-hundred and fiftieth grain of atropine was given, and she took an ounce of rye whisky with a little water, after which the A. C. E. mixture was inhaled from an ordinary towel cone until she was fully anesthetized.

With the assistance of Drs. L. B. Grandy, E. C. Davis, and J. McF. Gaston, Jr., I proceeded with the various steps indicated for the complete removal of the tumor with the jaw-bone. At the outset a strong silk ligature was passed through the tongue and its ends knotted together, so as to form a loop, which was to be made available to prevent the tongue from dropping back and interfering with respiration at a subsequent stage of the operation. This precaution is made requisite from the record of cases in which suffocation has resulted from its omission, when the lateral attachments of the tongue have been severed.

The next step was the extraction of two of the lower incisor teeth, where it was expected to divide the thick, bony structure subsequently, either with the saw or bone forceps. This would effect its detachment in front, and another section behind the angle of the jaw, through the condyloid neck, would separate the bone behind, so that all the intervening portion of the lower maxillary bone on the right side should be detached with the tumor. It was supposed that the facial artery had been ligated in the former operation, and hence that its trunk was obliterated, but that the collateral circulation had been established to some extent by the anastomosing vessels, so that some small branches would be encountered in proceeding with the dissection.

It may be noted, however, that in the removal of malignant tumors, the nutrient vessels have been found usually so small as not to require ligating, and even the regular supply of arteries generally undergo atrophy to a considerable extent in the vicinity of the neoplasm, owing, perhaps, to compression.

My greatest concern in regard to hemorrhage connected with this operation was relieved by the expectation of leaving the condyloid process, and thus obviating the risk of wounding the internal maxillary artery by its removal. This vessel lies in such close proximity to the inner face of the bone, that the steps for its disarticulation require great caution against wounding it, and it branches off from the external carotid, so that ligation is difficult. Having planned to accomplish the incision and dissection, so far as possible, without entering the buccal cavity, and thus avoid the entrance of blood into the fauces, I first divided the skin from a point immediately below the middle of the lower lip along the line of the cicatrix from the former incision back to the angle of the right lower jaw, and thence upward to the prominence of the zygoma, keeping away from the temporal artery in front of the ear. The skin

was then dissected back on the lower side from the tumor and in like manner above to the zygomatic arch, thus exposing the exterior surface of the diseased structure without entering the buccal cavity. The few cutaneous arteries which were divided were secured with artery forceps in the course of the dissection on the lower border.

At this stage, the lip which had been left intact in the first incision, was divided and the tissues separated from the bone until the point was reached for its detachment.

Having incised the periosteum over the surface of the lower maxillary, on a line with the socket from which the incisor was extracted, a saw was passed over the outer surface of the bone and then a strong pair of bone forceps was used by Dr. Grandy to divide the bone from above downward. I then used the same forceps to separate the bone just behind the angle, and proceeded to dissect up the close attachments of the masseter and temporal muscles from the coronoid process. This left the resected portion of the lower maxillary imbedded in the tumor, and all could readily be lifted up so as to complete the separation of the mass from below. In making the incisions up to this point, very little if any blood had entered the mouth, and it is desirable in doing this operation to provide against entering the buccal cavity as long as possible; but it was requisite at this stage to go into the mouth, and entering it from below I avoided trouble from the blood. Proceeding with the dissection around the lower large cyst, curved scissors were used, keeping close to sac, while the whole mass was lifted upward so as to get a good view of the dissected structures; but notwithstanding all my precaution the sac was opened and the brownish fluid contents escaped in quite a stream from the external wound, thus lessening very notably the size of the tumor. It was thought best in view of this to cut through the coats of the sac, leaving the deep attachment to be dissected out

after the diseased mass was so far detached as not to interfere with its removal. This portion of the sac in the deepest part of the excavation was in close proximity to the pharnyx, and in dissecting it from the surrounding tissues an arterial branch was cut, which was immediately seized with the forceps by my son and was subsequently ligated with catgut and dropped. It may be here stated that this was the only blood vessel which necessitated ligation in the course of the extensive incisions for the removal of the tumor.

I had provided an aneurismal needle armed with a strong silk ligature to secure the external or the internal carotid if the branches of either should be cut without being able to seize the divided vessels. The Pacquelin thermo-cautery was kept aglow by Dr. Davis to arrest any superficial oozing which could not be controlled by sponges with hot water. Thus, armed against any contingency, I went forward with the excision from above, enucleating the upper cyst from the zygomatic fossa and the indurated mass of cartilaginous consistence from beneath the arch. Having completed the separation of the entire tumor, I was agreeably surprised to find that there was but little sanguineous exudation from the surface of the tissues involved in this deep incised cavern. The oozing soon ceased under the hot water applications and cleaning out the mouth and throat with a sponge probang, the artery forceps were removed from the small twigs without any appearance of a jet of blood to require ligation. A loose compress of sterilized gauze was packed into the cavity with a strip out at the mouth. Depending upon the contractility of the skin to bring the flaps into proper relation for covering the wound, no part of it was excised, and the only notable fact upon bringing the cutaneous investment in apposition was the very decided lack of the normal temperature in the large upper flap. This caused some apprehension as to

preserving the vitality of the tissues with the limited blood supply to the narrow base. But recalling an observation, in a plastic operation for building an artificial nose from flaps dissected out of each cheek, in which there was not only a loss of heat, but shriveling of the structure on one side during the first twenty-four hours and eventually complete restoration, I was hopeful in this case. The interrupted silk suture was commenced by me at the lip and by Dr. Gaston, Jr., at the remote end of the incision over the malar protuberance, bringing the parts accurately together so as to favor the restoration of the circulation at the earliest practicable period. After passing below the curvilinear approximation, the union of the rectilinear incision along the former site of the body of the lower jaw, which had been removed, was effected with catgut stitches at a greater distance apart than the other suture. A broad strip of adhesive plaster was applied from the surface over the left lower maxillary along this line of catgut suture to the mastoid process on the right side to maintain a degree of fixidity in the parts.

The entire surface was covered with iodoform gauze and absorbent cotton, secured by turns of a roller bandage.

In the meantime, notwithstanding the slight loss of blood, there were such indications of shock as to require the resort to frequent hypodermic injections of whisky, alternated with nitroglycerine and digitalis. The anesthetic was discontinued after the detachment of the tumor, and vigorous measures were requisite to avert fatal prostration. In addition to the above enumerated means, hypodermic injections of one-fiftieth of a grain of strychnine were repeated every half hour until one-tenth of a grain was given, and afterwards every hour until reaction was established.

After removing the patient from the operating table, bottles of hot water were applied along the lower limbs

and on each side of the body continuously for several hours.

The pulse for a time was feeble and rapid, but five hours after the completion of the operation it counted but fifty beats to the minute, and the patient was still unconscious and in an extremely prostrate condition.

The favorable result of perseverance in the use of hypodermic injection of strychnine in this case adds another to the many instances in which this agent has been employed to avert profound collapse. While other drugs are transitory in their influence over the nerve centers, and should not be discarded in remedies for shock, there is nothing so trustworthy for its staying properties as strychnine.

I have no personal acquaintance with the virtues of camphorated oil, which Dr. Christian Fenger, of Chicago, and others have employed to a large extent under similar circumstances, but aqua ammonia strikes me as preferable to it. Having used the precaution of administering a hypodermic injection of morphine and atropine with a drink of whisky to the patient before giving the anesthetic of A. C. E. mixture, and there being less than five ounces of blood lost during this operation, it was not anticipated that it would be followed with such marked vital depression. It is only a further illustration of the unknown factor which enters into the equation of shock, and there is no field of investigation which calls for the attention of the profession with greater urgency than this overpowering effect of surgical procedures upon the nerve centers. If the link of correlation between injury of the ramification of the nerves in the tissues and the great nerve centers was properly comprehended, it ought to throw some light upon the means to be adopted for the prevention of shock. After considerable study of the nervous system I realize the utter impotence of the operator in attempting to carry out

any prophylatic measure against shock, and this subject is commended to the careful consideration of neurologists.

On the day following the operation there was considerable debility, but entire restoration of consciousness and ability to swallow fluids. The dressing was only lifted to ascertain the state of the upper flap, and it was found to have regained the natural warmth throughout the entire line of union in the cutaneous wound.

During the second day there was marked reaction, and the traumatic fever was attended with a temperature of 102° F., and a pulse of 120 beats to the minute. The dressings having become saturated with the sero-sanguinolent discharge, were renewed, and the packing was removed through the mouth by drawing upon the strip which protruded. The entire inner surface was wiped off by a piece of gauze, wrung out of a mixture of one ounce of spirits of turpentine and one dram of camphor, and a tampon of the same left packed into the zygomatic arch and into the bottom of the cheek. All the tissues of the large upper flap were somewhat swollen and thickened, so that the space within was not so large as immediately after closing the wound.

Upon the third day the pulse reached 130 beats to the minute, and the temperature 103° F., but the general condition of the patient was good, and she drank milk with Mellin's food during the day. The dressings, not being much soiled, were not disturbed, and as the ligature in the tongue did not seem to cause any trouble, it was allowed to lay in the left corner of mouth loosely attached to the dressing. She took one-half ounce of Epsom salts.

On the fourth day the temperature ranged from 103° to 103.5° F., with a pulse varying from 130 to 135 beats to the minute. But the patient seemed hungry, and took, in addition to the Mellin's food, milk punch and chicken soup. She even craved bananas, but was not indulged in

this. Her urine was normally evacuated. The dressing was all renewed, and the cleansing of the inside was repeated with the camphorated turpentine, but the packing was done with the plain gauze. She had little difficulty in swallowing, and the bowels not being moved, the Epsom salts was repeated with good effects.

The fifth day brought no marked change in the condition of the patient, except that her pulse was weaker, and vital power seemed to be less, accompained with some dullness of perception when spoken to. She was ordered milk punch at frequent intervals, and beef tea every three or four hours. The dressings were not much soiled, and were not disturbed. Her bowels had been moved on the previous day, and she had passed urine during the morning.

Upon visiting the patient on the following day, February 6th, there was notable coma, with pulse of 100 beats to the minute and temperature of 100° F., and upon inquiry as to the discharge of urine it was found that none had been passed since the previous morning. Upon using the catheter my son drew off about two pints of urine, which presented nothing unusual in appearance, but no test of it was made.

Upon removing the dressing, the strip of adhesive plaster which had been carried from the left jaw along the line of incision to the mastoid process, was detached, and the union by first intention had taken place throughout the entire cutaneous wound. In removing the gauze packing through the mouth there was evidence of sensibility, notwithstanding the obtuseness of her mental condition. The interior surface of the wound was swobbed off with gauze wrung out with camphorated turpentine and packed as before with dry sterilized gauze with a strip protruding from the angle of mouth. This formed drainage and was intended to facilitate removal of the tampon, should it have any tendency to drop back into the throat. The ligature

through the tongue had not been required at any time to prevent this organ from falling into the fauces and obstructing respiration. But as it caused no trouble, the loop was allowed to remain in the left corner of the mouth, secured to the external dressing of iodoform gauze. She took milk punch after the dressing was completed, but there was some difficulty in swallowing it, due to the progressive coma. With a view to an alterative and tonic effect, the following prescription was given during the day:

℞ Huxham's tincture ..... ℥ ii.
Tinct nux vomica ..... ʒ i.
Chlorate potash ..... ʒ i.
Water. q. s ..... ℥ vi.
M. Sig.: Take a tablespoonful every three hours.

In the interval she was ordered to take whisky toddy and milk punch.

There was a steady increase of coma, with a gradual decline of vital force until the death of the patient at five o'clock P. M., of the same day, six days and four hours after the operation.

With the favorable state of the wound in the progress of this case, and the final retention of urine, I am disposed to consider the coma of uremic origin, but have no sufficient data upon which to base this opinion. The cause of death was given as septicemia in my certificate.

A CASE OF SARCOMA OF THE ILIUM FOLLOWING A RAILWAY INJURY.

BY HOWARD J. WILLIAMS, A.M., M.D., MACON.

That sarcoma should follow a traumatic lesion of the bones is not an unusual occurrence, but the interest in the present case is due to the fact that it occurred in railroad service and followed an apparently trivial injury.

Mr. S. H., aged thirty-two years, white, a strong healthy man with no specific or hereditary, predisposition was trainmaster on one of the railroads centering in Macon. On October 24, 1892, there was a wreck on his division; it was important that the roadway should be rapidly cleared, and to hasten the work, he went to the scene of the accident. Being an experienced mechanic, he renderd all the assistance that was in his power. A guide rope was attached by one end to a locomotive and by the other to some part of the wreck so that the power of the locomotive could be used in removing the obstacle. Mr. H. was standing by this rope, it broke under the strain, he became entangled and was dragged some distance by the engine, striking his right buttock against the corner of a cross-tie. He, at the time, felt no inconvenience from the accident, except the momentary pain following a contusion near the exit of the great sciatic nerve, and returned to work. After a day or two of soreness he thought nothing further of the occurrence.

A month later, being his family physician as well as the company's surgeon, he consulted me for a pain in the right

buttock, thigh and calf of the leg. As he had been exposed to some severe weather and at the time was suffering with a cold, the pain was attributed to the cold, and I prescribed quinine and morphine.

I did not see him again until the latter part of December of the same year, when he returned, stating that while the pain was somewhat relieved, he still suffered; the pain was aggravated by sitting down, but standing or walking relieved it. There were no visible or palpable signs of trouble in the buttock, nor any local or general temperature, only the pain distressed him. Tonics and alteratives were prescribed.

February 1, 1893, he again consulted me. For two weeks after the second call he thought the pain was better, but since then it had rapidly grown worse. Not only while sitting but while standing and walking he felt the pain, even in bed it was present. A change in treatment was again made without benefit, and on February 9th he returned.

Careful examination of the limb was made, the point of acutest pain located in the region of the great sacro-sciatic notch of the os innominatum; pressure here aggravated the pain in the thigh and calf. On deep palpation I thought I could detect a deep seated induration, but could not distinctly define it. On actual measurement the limb was smaller than its fellow. There was yet no local or general temperature. I could form no idea as to what was the character of the induration, if it existed at all, but inclined to the idea that it was inflammatory, possibly an abscess forming.

A blister was ordered, and gradually increasing doses of iodide of potassium with small doses of bichloride of mercury prescribed, thinking perhaps there might have been an unconfessed or unrecognized specific trouble present, but no relief was obtained.

February 27th I put him to bed for a few days, giving full doses of morphine, his nights now being sleepless, and renewed the blistering. He began to show signs of weakening under the great pain in the hip and leg, lost appetite and weight and strength.

March 15th he could remain up no longer but went to bed. The apparent induration in the buttock remained. I began deep hypodermic injections of chloroform and morphine; having obtained relief in other cases of obstinate sciatica of inflammatory origin, I hoped, for benefit in the present case.

One day while using the deep injections, I thought I felt the end of my needle scraping denuded bone. This I mentioned to the patient, and then received the first intimation of the injury received at the wreck of the previous October. Reintroducing my needle I felt the same scraping of denuded bone, and withdrawing the piston I obtained a blood-stained fluid but no blood or pus. From this I constructed a theory that the bone had been injured, and denuded of periosteum was pressing upon the sciatic nerve at the notch in the pelvis. I told him of my views, and suggested the possibility of an operation. This he declined.

April 3d he decided to leave Macon for Alabama, rejecting operative interference. There was then no visible evidence of a tumor or enlargement, yet on deep palpation an induration could be felt above the great sacro-sciatic notch, between it and the crest of the ilium.

Three weeks after leaving Macon, his wife wrote that the enlargement was approaching the surface, and that the doctor in attendance had pronounced it an abscess, as he had fever and throbbing pains in the buttock. At one point there was some fluctuation and discoloration, and the doctor had lanced it, but there was no discharge of pus.

May 2d I was sent for and asked to come prepared to operate, as the doctor thought a more serious operation was

indicated. I went over to Alabama and found Mr. H. in a most deplorable condition, temperature 100° to 101°, suffering intense pain, requiring three-fourths of a grain of morphine every three hours, extremely emaciated, the leg drawn up to the body, and a large tumor on the pelvis, between the great trochanter of the femur and the sacro-iliac joint. On palpation a slight thrill could be felt, and a feeble *bruit* was heard on auscultation. The tumor was dense and hard, and had none of the elastic feeling of an aneurism. Near the crest of the ilium, midway between the anterior-superior and the posterior-superior spines of the ilium, there was another apparently separate enlargement, smaller than the other, soft, discolored, and fluctuating to touch, which had been incised but had closed up. The possibility of the larger tumor being an aneurism of a gluteal or sciatic artery presented itself to my mind; the likelihood of its being an abscess was dismissed by the incision without the discharge of pus, while the probability of its being a hematoma or malignant growth was also entertained.

He was extremely anxious that I should again take charge of his case, and, as it had been arranged that I should bring him home if necessary, we returned to Macon the next day, postponing any operation until our arrival.

During the next day he was seen in consultation by my partner, Dr. McHatton, and Drs. Gilmer, Winchester and Derry. Our diagnosis was uncertain, but we were inclined to the opinion that the ilium was fractured at the sciatic notch and an artery was injured, forming an aneurism or blood tumor of some character.

May 5th, assisted by Drs. McHatton, Gilmer and Winchester, the patient etherized by Dr. Derry, I operated. Beginning my incision as for aneurism of the sciatic artery, at the posterior-superior spine of the ilium, it was carried over the top of the larger tumor to the greater

trochanter, and the tissues were dissected down to the tumor. It was situated on the flange of the ilium just above the exit of the sciatic nerve and attached to the bone, though unattached to the muscles over it. The upper and posterior third of the great sciatic notch was denuded of periosteum, and a stellate fracture, radiating from the notch upward and backward for an inch and a half was found, the bone being pressed slightly inward upon the sciatic nerve. In attempting to cut out the tumor a cavity in it was opened followed by a gush of fluid and a small clot. I feared I had opened an aneurismal sac. Running my finger into this sac to find the opening of the artery, I found the interior of the cavity incrusted with small spiculæ of bone. There was no collapsing of the cavity nor any further escape of fluid after the first gush from it. I removed several small pieces of denuded bone and as much as possible of the tumor. Not a drop of pus was found in the growth. The operation was a very bloody one and the patient was very much depressed. The wound was packed with iodoform gauze and dressed antiseptically, the patient put between blankets, stimulants hypodermically and hot bottles used to bring on reaction.

Examination of the growth disclosed it to be a sub-periosteal sarcoma of the mixed type.

My patient did well for two weeks, the pulse and temperature declined, he was free from intense suffering, the morphine was reduced from three-fourths of a grain every three hours to one-fourth grain every six hours, he recovered some appetite and slept well. Then recurrence took place, fever returned, suppuration began and delirium set in. On the 28th of May, as I had to leave for Omaha, Neb., to attend a meeting of the "National Association of Railway Surgeons," I turned him over to Dr. McHatton and never saw him again. He died June 17th, forty-

three days after the operation and nearly eight months after the accident.

That the accident was the indirect cause of the growth there can be no doubt in my mind. A man in early middle life and in perfect health is exposed to an accident and receives an injury near the exit of the great sciatic nerve; very soon obstinate pain, located at the point of injury and increased by pressure, is developed; denuded bone is discovered by the hypodermic needle; and there is early rapid growth of a tumor at the seat of the injury. These furnish a clinical history of a fracture of the pelvic bone, irritation by pressure of depressed bone on the nerve at its exit, and a rapidly developing malignant tumor of the bone near the fracture.

That there was an injury to the bone or a fracture I had decided before the tumor had developed; the history of an accident, pain due to pressure at the point of injury (the exit of the sciatic nerve), and the detection of denuded bone were the signs on which I based my conclusions. The diagnosis of the character of the tumor was difficult; it rested between abscess, aneurism, blood-tumor or hematoma of the bone and malignant growth. Either could appear at the age of my patient, either could follow a traumatism, pain would have been equally present, and rapid growth would also be characteristic of any one of them. Against abscess there was the absence of early inflammatory reaction, the absence of general fluctuation, the absence of pus when a portion of the tumor was opened, and the presence of a thrill and *bruit* on auscultation; but the thrill and *bruit* may have been caused by the pressure of the tumor upon a neighboring artery; the absence of fluctuation may be accounted for by the deep seat of the tumor and large mass of overlying muscles, while the doctor's knife may not have gone deep enough to open the collection of pus. In favor of aneurism, there was the apparent thrill and *bruit;* against

it was the tardy development of the tumor,—the vessel wounded by the fractured bone should have yielded soon after the injury; the tumor was fixed to the bone,—an ordinary aneurism should have more or less latitude of motion; the tumor was dense, not elastic like an aneurism; there was not present the distinct impulse or lifting on palpation; the *bruit*, though present, was feeble, not the loud murmur of aneurism; and lastly, the local and general temperature was elevated late in the case; a rise in temperature is not present in aneurism. A hematoma of the bone, or under the periosteum, gives rise to a fixed dense tumor that is preceded by pain in the bone at the seat of the injury, and is accompanied by a blowing sound; against this tumor we may mention the late appearance of the tumor. If the fractured bone lacerated a vessel the tumor should have formed in a few days, and should have grown rapidly from the beginning; the hypodermic needle would have withdrawn pure blood, and elevation of the temperature is not present in these growths. In favor of sarcoma we have late development of the growth; the tumor was not positively detected until five months after the injury, though there was slight indication of its presence on deep palpation, the tumor grew rapidly; there was discoloration and some fluctuation at one point; the local and general temperature was elevated slightly; a feeble *bruit* was heard on auscultation; and the patient grew rapidly emaciated.

As I have stated our diagnosis, until after the operation, was undecided; but we favored a diagnosis of aneurism or blood-tumor, the slight thrill and *bruit* being most characteristic of aneurism.

The examination of the tumor, as we have seen, showed it to be a periosteal sarcoma of the mixed type. The macroscopical characteristics were quite distinct. The tumor was developed in the periosteum, followed a traumatism, was not in a distinct capsule, was traversed by many

blood vessels, had a large cyst, spiculæ of bone were present in the cyst walls, *a bruit* was heard over the tumor, at one point there was a tendency to ulceration which finally did break down, the growth was attended during the last stages by local and constitutional heat, was of rapid growth, early recurrence, and on recurrence pus formation was present.

A CASE OF EXTRA-UTERINE PREGNANCY.

BY J. G. EARNEST, M.D., ATLANTA.

On the second day of February, 1894, a lady, age thirty-two, the mother of three children, the last confinement seven years ago, called at my office and stated that she had generally been regular in her menstrual period, but that the period that should have been on the 30th of December, 1893, had not made its appearance until the 10th of January, when she had a slight flow for five or six hours. There was some nausea. The uterus somewhat enlarged, with soft, spongy neck, and the well-marked dusky tint characteristic of pregnancy. I gave it as my opinion that she was pregnant. There was a lump adjacent to the left cornu that seemed to be in the fallopian tube, and suggested the possibility of tubal pregnancy. On this account I asked her to see me in a month again. On the night of 23d of February she was awakened by severe pain in left ovarian region. To use her own expression, she was "paralyzed with pain," and asserts that she could not possibly have given the alarm but for the fact that some one was sleeping with her. Hemorrhage from the uterus accompanied the pains, and quite a number of large clots were passed. Dr. Fisher, of Bolton, was called in and gave a hypodermic injection of morphine that quieted the pain. February 28th I was sent for, and found her comfortable, but quite tender over pelvic region. Her temperature was 100°. The uterus had increased in size, and the mass in left tube seemed now to be nearly as large as an average

fist. There was no longer any doubt in my mind as to the nature of the case. I so stated to the patient, and told her an immediate operation would be necessary. However, on account of the absence of her husband the operation was postponed until March 6th, when, at 11 o'clock, assisted by Drs. W. C. Warren and J. McF. Gaston, Jr., of this city, and Dr. Fisher, of Bolton, I opened the abdomen and found the dilated tube dragged down behind the uterus. The adhesions were easily detached and the mass gently lifted out of the pelvis and tied off with a heavy silk ligature. There was no rupture. The abdomen was washed out and closed without drainage. The mass removed was ovoid in shape, very thin walled, about five inches long and two and a half inches in its greatest transverse diameter. It contained a perfect placenta and well-formed fetus of about twelve weeks. It was observed that the uterus was nearly spherical in shape, of a dusky hue, and about two and a half inches in diameter transversely. Two days after operation a free flow of blood from uterus appeared. On the fourth night expulsive pains set in and threw off a mass from the uterus exactly resembling in appearance the placenta found in the tube. It was about two and a quarter inches in diameter, about a quarter of an inch thick at the peripheral margin and half an inch thick at the center. One side was smooth and the other presented the rough, serrated appearance that we usually see in a placenta. Hanging to the margin was the torn, ragged edge of a thin membrane. I could make nothing else of it but a placenta, although the mother insisted that she had passed no fetus, but admitted that she had passed numerous large clots, some of which were carried out without examination. This was previous to the operation. It was my intention to bring the specimen home and submit it to a critical and conclusive examination, but in my hurry to catch the train it was forgotten. This I

regret, as it places me in position that I cannot speak with absolute certainty as to the existence of a double pregnancy, but it seems to me that there is little room to doubt that such was the case. Recovery was uninterrupted.

DISCUSSION ON DR. EARNEST'S PAPER.

Dr. Richard Douglas, of Nashville: The subject of ectopic gestation is one that has interested me from the beginning of my professional career, and I have had considerable experience with these cases for one so young in the practice of gynecology. I have met with nine cases of ectopic gestation—one case a *post mortem*. The remaining eight cases were submitted to operation. Seven of them recovered. I have always found the ectopic gestation tubal. *I have never* seen a case of ectopic gestation in my practice or in that of other surgeons that gave me the slightest reason to think that it was ovarian. There are certain symptoms and signs attending ectopic gestation that enable us to diagnose it.

In the case just reported the doctor was remarkably fortunate in operating upon her before rupture. I have never yet been so fortunate as to diagnose a case of ectopic gestation before rupture, but in this particular case recorded I dare say there was some separation of the membrane, some hemorrhage in the tube.

Dr. Eearnest: No, sir.

Dr. Douglas: Then the symptom of pain in the tube is hard to explain. There are several factors that give rise to pain in ectopic gestation. *First* of all, it is rhythmical contraction of the uterus and tubes; *second,* it is due to the effusion of blood between the fruit sac and its attachment; *third,* it is the rupture of tube and distention of board ligament that causes pain, and *lastly, this tearing of the tube,* rupture of the broad ligament, causes lancinating pain. It is rather unusual for it to go as long as twelve or

fourteen weeks without rupture. Generally rupture takes place earlier, though we are taught it may go on much longer. The symptoms and the indications at the time of rupture are what concern the surgeon. When we are called upon to deal with a case of ectopic gestation, it is exceptional for us to see it except at the time of rupture. Then what shall we do? Shall we operate upon the case, or wait for reaction? It depends upon the character of the rupture we have to deal with. Has the rupture taken place downward within the folds of the broad ligament, or is it intra-peritoneal? It devolves upon you to make a diagnosis between intra-ligamentous and abdominal rupture. In case of intra-ligamentous rupture, it usually takes place not later than the twelfth week. *It may be the rupture is* attended by sharp, lancinating pain, and generally uterine hemorrhage. There is the development of a circumscribed tumor low down in the pelvis encroaching upon the vagina and displacing the uterus to the opposite side. The uterus is enlarged or somewhat patulous. The tumor is not tender, is smooth; parts of the fetus may be felt upon it. Parts of the tumor fluctuate; gradual increase in size of the tumor is an important point at the time of rupture. If rupture takes place in the broad ligament there is slight shock, not as severe as that which takes place when there is rupture into the cavity of the abdomen. A local examination of the tumor will show at first a smooth, globular, painless tumor, occupying one side of the vagina. I will cite my last case to illustrate this point.

A negro woman had the symptoms of rupture. On the first day of January she was admitted to the city hospital, Nashville, and came into my service the 25th of February. A diagnosis of malignant tumor was made previously. When I first examined her I found a mass on the left side, smooth and nodular. Part of the vagina was found to be

filled with a tumor that was nodular and dense. There were no symptoms of peritonitis, no increase of temperature or acceleration of the pulse. There were acute pain, shock and the physical signs that we have in rupture in ectopic gestation. I made a diagnosis of ectopic gestation with rupture and found the tumor lying in the true pelvis, the cervix forward, the fundus high up and to the right side.

In these cases of intra-ligamentous rupture the indication is to wait. The patient will react from shock, and we should wait for better conditions, wait until we can empty the bowels, put the patient upon a proper diet, and then we can undertake an operation with a fair chance of recovery. You should get recovery in a large per cent. of these cases, but not so in intra-peritoneal rupture. Hemorrhage takes place in the cavity of the abdomen. *It is* not due to rupture of an ovarian artery, but the source is from the sinuses in the tube. It comes from the uterine end of the tube. The thing to do in intra-peritoneal rupture is to make an immediate operation to control hemorrhage, otherwise it will go on and terminate in the death of the patient sooner or later. I am aware that many operators oppose this view, but I cannot see why the general law of surgery does not obtain under such circumstances. I have operated in complete shock, when the patient was exsanguinated from intra-peritoneal rupture. I have opened the abdomen and taken out a great quantity of clotted blood. Under these circumstances we should resort to intra-arterial injections, supplying the collapsed blood-vessels with the material that they have lost. I give the patient digitalis and strychnine, keep the patient's abdomen filled with hot water until reaction takes place, and then complete the operation. To sum up: If rupture takes place in the folds of the broad ligament, the law is to wait for reaction, and the surgeon should put his patient in good condition where the symptom of shock is profound. Where there is

no decided tumor, no circumscribed mass encroaching upon the vagina, where there is, in other words, symptoms and signs of intra-peritoneal rupture, the indication is to operate at once to stop the bleeding that is taking away the life of your patient.

Dr. J. C. Avary, of Atlanta: I will relate a case I had in which Drs. Crow and Kime were called in consultation, and in which we diagnosed the probability of tubal pregnancy at about the sixth week or two months. The mass was there and all the signs of pregnancy. It proved to be a case of pregnancy. We let it alone, being prepared at any time for immediate action, because the case was right near me, and I could have operated at a moment's notice. This patient, without any interference, miscarried, and made a good recovery. Another case of similar kind, where we made the same probable diagnosis, went on to full term. I presume we were mistaken in our diagnosis.

Dr. R. R. Kime, of Atlanta: This subject is interesting to the general practitioner as well as to the specialist, and I desire to emphasize the remarks that have been made by Dr. Douglas. I fully agree with the views expressed by him, and I would lay stress upon the fact that ectopic gestation is more frequent than most of us imagine. As to whether it is always tubal or not, I will simply refer to a case I reported some years ago, and which was published in the *Atlanta Medical Journal*. I decided that this was a case of interstitial pregnancy, and it was four years and eight months from the time it occurred until the fetal structures were removed through the cervical canal. The uterine wall separating the extra-uterine pregnancy from the uterus had ulcerated, and rupture took place into the uterine cavity. The details of the case can be found in that journal. It affords evidence, no doubt, as to its being interstitial pregnancy. The patient made a rapid recovery.

I am watching with a great deal of interest a case that

about six weeks ago gave evidences of contemporaneous intra and extra-uterine pregnancy. The patient had not been married but ten months from the time of delivery of the child. The physical signs point in the direction of extra-uterine pregnancy, as well as a case of normal pregnancy, and the case I should have reported at this meeting had time permitted was one of double tubal pregnancy occurring at different dates, but it will be published in the Transactions of the Association.

Dr. Earnest: Some of my friends here say I had forgotten to mention that the patient made prompt recovery.

SACRIFICIAL SURGERY OF THE OVARIES, TUBES AND UTERUS FOR UTERINE FIBROIDS AND UTERINE CANCER.

BY ROSS P. COX, M.D., ROME.

Therapeutics has led us a long way. It seems only recently to have occurred to civilized man to stop looking to the lower animals and savages for wondrous cure-alls, and to begin in earnest to study to avoid the cause of disease. Rational medicine tarried. To it an ounce of cure was worth a pound of prevention, and its efforts were governed accordingly. While the centuries continued to resound with the fierce disputation of medical men concerning the merits of drugs long ago obsolete, it was left for an outsider, a chemist, for Pasteur is not a physician, to discover and enunciate the principle that is to-day the chief pride and boast of our profession.

As in other departments, so in gynecic medicine, within these last fifty years prophylaxis, has done more to redeem woman from the thraldom of disease peculiar to her than as many centuries of therapy had previously accomplished. We have seen Holmes saving the puerpera from the awful march of sepsis; Bernutz and others showing that a variety of pathogenic agencies reached the tubes, peritoneum and ovaries by way of the birth canal; Noeggerath demonstrating the fearful rôle of gonorrhea in women; Thomas with legions of colaborers pointing out the pitfalls and snares that beset what he calls the four great climacterics—puberty, marriage, childbirth and menopause; and Dickinson cham-

pioning the hosts for dress reform in a hard-fought but, thus far, ever-losing battle, for when it comes to looking pretty health has a mighty poor showing, warning or no warning. If more was said about ugliness and less about unhealthfulness, the change would be kaleidoscopic.

In gynecology, also, it is the fact of disease that daily comes home to our business and bosoms, and to-day I wish to consider briefly two very common and very serious affections whose etiology is almost entirely without the pale of human influence or control: I refer to uterine fibroids and uterine cancer. When we look for fixed and settled principles and measures of treatment in our art, we are too apt to be confronted with a mighty babel of therapeutics. In this regard it seems to little purpose that for nigh forty years we have wandered in a gynecological wilderness of doubt, by ways that "are dark and intricate, puzzled with mazes and perplexed with error." The "pure physician," he of "the discreet, palpatory, abdominal meanderings," the "expiring race of obstetricians"—the nerve-specialty man, the general-surgery man, and now even the eye-specialty man, though waging perpetual war among themselves, are apt to make common cause against the encroachments of the female-specialty man. This last individual, not being fully occupied with contentions from without, finds time to carry on extensive internecine strife.

From within this mighty tempest of discord we at last believe we catch some fairly harmonious strains. In the treatment of uterine fibroids and uterine cancer radical interference is often the best hope for the one, and always the only hope for the other. The rather indefinite, though usually given, moral ground of justification for excisions of the pelvic organs is to save life, to preserve from destruction a patient's usefulness or her capacity for the rational pursuits of happiness, or to relieve serious and permanent impairment of these natural rights. It is around the pathological and

clinical ground for operating that the storm centers, and even with regard to such ordinary and well recognized maladies as those under consideration, the best workers have not yet found it possible to frame the absolute and "intelligently communicable standard" for sacrificial procedure. About all reputable medical opinion concedes conditions that demand entire removal of one or more of the pelvic organs for uterine fibroids and cancer, but seems hopelessly divided as to the limitations.

Errors of the badly informed, abuses of the unscrupulous and blunders of the unskillful have brought to operative gynecology most of this confusion. For these reasons competent specialists for a long time almost despaired that gynecology would be established. Even McDowell's ovariotomy was once abandoned and called murder. What Price would call the mushroom specialist is in our time responsible for most of this. The most fatal form of this complaint is not the universally despised young graduate, whom nobody will trust, but the older and often successful practitioner, who has won confidence to abuse it, having no aptitude or training for pelvic surgery. It is right and necessary to first become a competent practitioner, but under present conditions, long and special training, if possible, under a master, is no less essential.

Any medical man who advises or performs these radical operations on vague indications, without the ability to give an honest and reasonably intelligent opinion as to the necessity and probable results, and, in doubtful cases, without the sanction of skillful and conscientious counsel, has failed in his duty and dishonored his profession.

My excuse for introducing a subject about which I have so little experimental knowledge, for I have never excised the uterus, and only incidentally refer to Battey's operation, a measure with whose indications, technique and immediate

and remote results I possess some practical acquaintance, is because I believe there are, in an especial degree, widely prevalent false notions about the best management of these exceedingly common, disabling and destructive diseases of the uterus, and that they, more than other grave pelvic lesions, are with us apt to be, and are, constantly being abandoned to delay, palliation and death.

Laparotomy for the treatment of uterine fibroids has been divided by Pean and Urdy into three periods. The first is the period of complete abandonment, and extends to 1843. During this time, when tumors previously diagnosed as ovarian cysts were, on incision, found to be myomata uteri, the abdomen was promptly closed without further interference. From that time to 1863 was the period of "trials and groping." Atlee, Heath and others, having exposed fibroids from a mistaken diagnosis, dared to enucleate or cut away in some favorable cases. In 1863 Koeberle, being in doubt, deliberately prepared for either ovariotomy or hysterectomy.

After Dr. Battey had announced his operation for the removal of functionally active ovaries to secure the advantages of the menopause, Mr. Lawson Tait extensively practiced and advocated this measure, subsequently taking away also the tubes to arrest the growth and symptoms of fibroids. In a very recent discussion before the British Gynecological Society, he said, "So far as myomata are concerned, removal of the appendages is an established surgical procedure." He thinks this operation especially suited to small, intramural, rapidly growing fibroids, but stated that "certain myomata often started growing after the menopause." Uterine fibroids are, with Martin of Berlin, the only ground, other than uterine aplasia, for which he thinks removal of healthy ovaries is justifiable, but he never does the operation, "preferring to attack the new growth directly" in such cases as oöphorectomy; is eligible "by enucleation if

the tumor be not much larger than an orange, and has but a few well defined nodules," and in all other operable cases by hysterectomy. Johnson, of Cincinnati, urges early removal of the appendages, stating "after the tumor grows above the umbilicus, it is said nothing but a hysterectomy will stop it." If the general practitioner would send the small fibroids to us, these terrific hysterectomies would be a thing of the past.

Among the French, Pean pins his faith to hysterectomy. He makes a statement that my own observation abundantly corroborates, that in most of these cases the ovaries and tubes are diseased. Bouilly supports this fact, and states that "disease of the appendages exaggerates most of the symptoms." He also counsels hysterectomy. Pozzi prefers hysterectomy, vaginal, if possible, but simply removes the appendages if patient is too weak to stand the radical operation, and in certain cases of even very large tumors if extirpation is not practicable. Delageniere advocates removal of the adnexa in young women if tumor is below umbilicus and hemorrhage is the chief symptom, and hysterectomy for all other operable cases. Boldt, in a recent paper, earnestly advocates total extirpation as a rule, insisting that the tumor may "continue or even commence to grow" after the menopause, artificial or natural; that there is danger of gangrene or suppuration of the tumor, or malignant degeneration of the endometrium after oöphorectomy. Mann found that the tumor may continue to grow after removal of ovaries and tubes, and there was risk of sloughing. He would restrict oöphorectomy to those cases where a small tumor is associated with diseased ovaries and tubes; for the rest he does the radical operation. Price thinks "removal of the appendages for cases of small, multinodular processes a valuable procedure—simple, safe, quick, and the results are about perfect." His rule for other cases is hysterectomy. Noble reports sixteen selected cases treated

by Battey's operation; in all but one symptomatic cures resulted; no deaths. Currier, in a very recent paper on "Myomata Uteri," says that Battey's operation is indicated and likely to be successful where "there are small unpedunculated subperitoneal tumors causing much dysmenorrhea"; where there is "slight myomatous enlargement of the entire uterus, with pain and profuse hemorrhage"; where the tumor "is so massive and the attachments so firm that removal would be extra hazardous, and where patient is too weak to stand complete extirpation." Dr. Battey's own results in this class of patients show his operation, when practicable, very successful. He has had about twenty-five cases; no deaths.

The indications for hysterectomy for fibroids is about the same as those formerly assigned for oöphorectomy, plus those that render the latter operation often impracticable. Disabling pain, hemorrhage, neuroses and interference from bulk, which such palliative measures as ergot, curetting and electricity cannot relieve and which are not especially suited to the more conservative operations, oöphorectomy or ligation of nutrient vessels, enucleation, cutting or snaring from pedicle, justify or demand hysterectomy. The neurotic rôle of these neoplasms is rather new, but important knowledge. All operators simply cut or snare away pedunculated growths, and most of them only enucleate in favorable cases. The advantages of enucleation are that it leaves the hope and fact of possible conception, and the other benefits that ovulation and menstruation afford young women. Its disadvantages are that, even in such skilled hands as Martin's, the mortality was fourteen per cent., fully that of hysterectomy, and that in about four per cent. recurrence took place, the technique is more difficult and good results not so certain. However, Martin lost none of his last twenty cases, and it will undoubtedly be the operation of choice in some instances. Munde thinks only ten per

cent. of cases that come to consult for symptoms require surgical interference; Baer would place the number for radical procedure at seventy-five per cent., while Gordon would let none escape the sacrificial table. The tide sets strongly towards total extirpation. In America Gordon and Polk are the most radical of excisionists and advocate no other surgical treatment. The same is true of Martin of Berlin. Pozzi and Bantock are not very different. Indeed, the hysterectomists have made for themselves a strong case. We have seen that large, soft myomata and those that have undergone cystic degeneration at the menopause, however induced, do not cease to grow, but increase; that large tumors, especially the soft variety, do frequently slough and die after ovarian arteries are tied; three times have I seen sloughing, and twice death from this cause. In other instances, oöphorectomy does not control the hemorrhage and other symptoms; that nothing short of total extirpation will immediately and surely remove the pressure symptoms, always distressing and often dangerous; that when the appendages are low and spread out on the tumor, their removal is far more difficult and dangerous than hysterectomy and, finally, that commensurable with the benefits to be obtained, hysterectomy is a safer and consequently, in most cases, I believe, the truly conservative operation. Moreover, when these neoplasms are left with lowered nutrition, cystic and malignant changes frequently occur. Shall we despise to also mention the esthetic reason for excision, restoration of comeliness to the figure of many patients.

When these tumors are left to palliative treatment, those that continue to grow and those that degenerate slowly but surely destroy life. Sutton states that all varieties have frequently caused death by suppuration or necrosis of tumor by uremic poisoning, fatal peritonitis, fatal hemorrhage, exhaustion from the discharges other than blood and from disordered nutrition from pressure.

In the hands of skilled operators, such as Martin, Pozzi, Bantock, Kelly, Krug, Mann, Polk, Baer, Price, Wylie and others, late results show an average mortality of about ten per cent., which differs little from that of ovarian cystoma. I regret time does not serve me to go into details here. I give a few noteworthy results. Of hysterectomies for fibroids, Johnson of Washington reports 30 cases, 3 deaths; Krug, 25 cases, 2 deaths; Polk, 30 cases, 2 deaths; Mann, 13 cases, 1 death; Baer, 28 cases, 2 deaths; Pean, 200 abdominal, 30 deaths; 50 mixed, 1 death; 300 vaginal, 6 deaths, giving for the 626 cases a mortality of a little less than eight per cent., about that of ovariotomy.

These fibroids are very common. I am impressed with the belief that they are not, as a rule so harmless and benign as has been supposed. No inconsiderable number of these sufferer's have come under my notice. There is known to me no chronic disease peculiar to women, not essentially and uncompromisingly destructive to life, more characterized by pain, anxiety and disability than one of these myomata, actively causing symptoms. Sexual life has become a menace and a burden; the body suffers pain, discomfort or disfigurement, the mind falls a prey to direct neuropathic disturbance and to the disastrous one idea, the unceasing regret of disease deemed hopeless. In certain early cases previously specified, Battey's operation will, I think, with many of the best operators be the fit and chosen method, but in many other operable cases radical excision has much to commend it, and I believe will be and ought to be the established procedure.

Uterine cancer, positively diagnosed, has been characterized by marvelous uniformity in the results of all treatment. According to reliable American and German statistics about three per cent. of all women die of uterine cancer. In the vast majority of cases the cervix is primarily affected and to these cases especially my remarks apply.

Two years ago, John Bryne, before the American Gynecological Society, with infinite satire, but logic as keen and caustic as his own glowing electric blade, did so radically blister and roast the hysterectomists for cancer that I wonder that they ever recurred. He collected 1,273 vaginal hysterectomies for cancer, with a primary mortality of 14.60 per cent. Olshausen has reported 163 cases of like treatment, with 22 primary deaths, all but 40 dead at the end of two years, and of these 40, only 19, about eight per cent. were without recurrence, at the end of two years. So far as the records were obtainable the average period of exemption from recurrence after hysterectomy was less than two years. He concludes that an operation with a primary mortality of fourteen per cent. in the hands of the best operators and in which recurrence was so frequent and so rapid, even when the disease appeared to be limited to the cervix, such an operation did not give benefits commensurable with the risks, and was unjustifiable. He further affirmed that these patients would have lived longer and fared better if nothing whatever had been done. On the other hand, he brings forward 400 cases of uterine cancer "treated by high amputation or excision, as the case may be, by galvano-cautery, not only of all diseased parts, but also as much more and beyond the supposed danger line as can be safely taken away, the same being followed by a thorough dry roasting of all exposed surfaces." There was not a single primary death. In 40 cases of disease limited to the vaginal cervix, all whose histories could be traced, there was no recurrence within two years and some had gone twenty-two years without recurrence; in 50 cases involving the entire cervix, all whose histories could be followed up, only 10 had recurrence within two years and the other 40 had had an average exemption of nearly six years. His method is further applicable to that vast majority of all cases, where the periuterine and vesicovaginal tissues are involved and radical

excision is out of the question. Sänger has called attention to the fact that Carl Braun, before the days of hysterectomy, succeeded in curing twenty per cent. of his cases by high amputation of the cervix with the galvano-cautery loop, while even Winter has claimed that the results of hysterectomy are only five per cent. better. The great majority of these are past all but palliative measures when they come for consultation. Sänger thinks the per cent. of such conditions is twenty-five; Boldt says about fifteen per cent. are still operable, while Krug places the number at only six per cent. Curetting and cauterizing will be the best measures for these doomed unfortunates. In rebuttal of the views of Bryne, Dr. H. J. Boldt, at the same time and place, submitted evidence in support of vaginal hysterectomy for cancer uteri. Boldt admitted that the assertion of Mr. Lawson Tait, that vaginal hysterectomy for cancer is a useless operation and has no place in surgery, would stand, if the better methods of recent years had not vastly improved results. Instead of a mortality of fourteen and six-tenths per cent., he brought forward 44 cases of his own, primary mortality was seven per cent.; 60 cases by Price and Byford, in which the rate was five per cent.; 77 cases by Zweifel, with five and two-tenths per cent. direct deaths; and 474 by other European surgeons, with eight and four-tenths per cent. primary deaths, making in all 655 vaginal hysterectomies for uterine cancer, with an average of about seven per cent. mortality. Boldt's evidence as to remote results are meager. He very reasonably states that it will take another quarter of a century to settle this. The best showing he could make was that forty to fifty per cent. of the quoted cases that did not die from the operation were without recurrence after two years. These results do not compare favorably with those of Bryne.

Now, it is admitted by Boldt that if particles of cancer tissue are brought and left in contact with healthy struc-

tures, "real recurrence may take place." He state that "such infection is most likely to take place during the operation." Now, further, it is maintained that the firm scar tissue following cauterization possesses special resistance to recurrence, and Dr. Boldt incidentally admits this. It is at once seen that the galvano-cautery method both avoids the risk of such infection and secures the resisting scar tissue.

Boldt, with many others, rejects high amputation, because in a small proportion of cases synchronous independent disease of the body or fundus uteri has been found. He states that it is a recognized fact that cancer, having its seat in the cervix or vaginal portion of the cervix, has no tendency to extend into the body of the uterus at an early period, but will invade first the pericervical tissues; therefore, it seems to me the absence of such latter involvement is evidence of limitation and argues against his complete operation. He prays for the early co-operation of the much and specially abused family physician, so that fewer shall die directly and more shall live remotely, while Coe, a very accomplished pathologist and microscopist, whispers warningly, "Pathologists differ in opinion as to what they find. Sometimes they state that there is no cancer, when malignant disease is present; and again, that the disease is cancer, when really it is only erosion of the cervix." Coe examined "several specimens of uteri removed for supposed malignant disease, when there was no anatomical evidence of it." While Coe does hysterectomy in advanced cervical involvement, and cauterizing or high amputation in beginning cases, the above facts "bother" him.

Dr. Battey affirms that he can cite case after case where at the time the diagnosis of cancer was satisfactory to him, but whose prompt, entire and permanent recovery under applications of iodized phenol utterly confuted the diagnosis. It is true, the microscope, in competent hands, helps this matter out considerably, but these statements "must give

us pause," and will often make patients rather bear the ills they have than flee to those they know not of. Wylie asserts that he would "just as soon think of leaving part of a cancerous breast, doing a partial operation, as to remove only a part of the uterus." To this it may be replied, that the breast is not an elongated, chiefly muscular structure, but a hemispherical glandular organ, essentially epithelial in character, favoring the rapid spread of cancer; that retention of such a part of healthy breast as would be likely to be left after proper removal of the diseased portion would not be an advantage but a detriment to the individual; and above all, that the entire removal of the diseased breast is as safe as its partial removal; whereas, the perils of hysterectomy are not to be compared to the published results of amputation of the cervix, or of the cervix with more or less of the rest of the uterus by galvano-cautery.

So I conclude that in nearly all cases supposed to be operable carcinoma uteri, try to exclude cancer by the microscope, but if this examination confirms the diagnosis of cancer, proceed at once to amputation, or, in a certain sense, excision, by the galvano-cautery and not by vaginal hysterectomy. Abdominal hysterectomy is indicated only in certain cases, where the malignant disease is complicated by enlargement, such as myomata or pregnancy.

EARLY OPERATION IN STRANGULATED HERNIA.

BY WILLIAM PERRIN NICOLSON, M.D., ATLANTA.

There is probably no surgical affection in which the result of operative interference depends so much upon prompt action as in strangulated hernia, and the fact that almost every case first falls into the hands of the family physician, who is a general practitioner, leads us to offer a plea for early operation in cases where the fact of strangulation is well established, and to urge that should he himself be unwilling to operate, no time should be lost in calling in the assistance of some surgeon who can.

Statistics show beyond any doubt that where a fatal issue follows this operation, it may in almost every instance be traced to either the pathological change that has taken place in the intestine, or the exhaustion of the strength of the patient by prolonged pain and vomiting. Modern surgical methods have perfected the operation, so that it has been removed from the category of capital, and transferred to that of minor, operations, provided it is done before the above-mentioned conditions have arisen.

The time in which destructive changes may take place in an intestine completely strangulated varies, but the fact that they may occur in a few hours should always be borne in mind in deciding upon operation. In a case under my own charge where strangulation suddenly occurred, though the operation was done within a little less than four hours after full development of symptoms, the intestine when ex-

posed was found perfectly black, and would have undoubtedly been necrosed in a very short time. In this instance delay would certainly have resulted in a far more dangerous operation, and in all probability in the death of the patient.

The question may be asked, what time should be selected to operate, and as a general proposition it may be laid down as a safe rule, that when taxis fairly tried under an anesthetic fails to reduce the hernia, the time for operation has arrived. I am well aware that many advocate the resort to hot baths, ice applications, and other means directed to relaxing the constrictions and reducing the congestion, but there are in my opinion few arguments to bear out this line of treatment. The constriction as a rule is one that does not relax on account of the character of the tissues which compose it, and the congestion is of a passive nature, due to the fact that the arterial blood entering is not obstructed, while the venous current is. If these steps are to be taken, I should rather advise their use before resorting to an anesthetic, and when circumstances demand the administration of ether as a final step, the surgeon should be prepared to operate before the patient regains consciousness from the anesthetic. Continued efforts at taxis after this can only serve to further imperil the life of the intestine, and place it in a condition that will give rise in the operation to the serious question of its viability if returned into the abdomen, and when it is reduced its nerve force and circulation may be so impaired that intestinal obstruction will remain even after the bowel has been replaced. Another serious result of continued taxis may be that a hernia finally reduced into the abdomen may be in a condition that had the operator enjoyed the privilege of inspecting it, he would not have returned it at all.

In addition to this, as evidenced by things under my own observation, a hernia that has been strangulated for a

number of days may finally pass back into the abdomen, and be in such a condition that it is unable to resist pressure, and a rupture will take place permitting extravasation of its contents into the abdominal cavity. In this connection it may be stated that in this day no good surgeon will permit the intestine to return into the abdomen by operation, without opening the sac and inspecting it. This was formerly advised as the proper step before the days of clean surgery, during which period may also be observed the fact that continued obstruction of the bowels after the return of the intestine and subsequent rupture were frequently observed.

Lastly I would state that my only purpose in presenting this subject is the hope of impressing upon those into whose hands such cases fall, that, if reduction cannot be early accomplished, and they are themselves unwilling to operate, they should give the patient the benefit of the services of one who will, before the condition shall have been converted from one of a comparatively simple nature, to one of the gravest conditions that exist in surgery. In conclusion I would offer as the reasons for thus urging early operation the following:

FIRST. That the operation *per se* is practically devoid of danger.

SECOND. The dangers that attend upon operation are due to results of delay; namely, the changes in the intestine, and exhaustion of patient.

THIRD. That as a general proposition, where strangulation has existed for any length of time, it is safer to operate, and then have the opportunity to inspect the bowel before returning, even than to reduce it by simple taxis while ignorant of its condition.

FOURTH. A strangulated intestine may finally return by taxis only to remain in a state of paralytic obstruction, or to finally rupture into the peritoneal cavity.

FIFTH. When early operation is permitted, and the patient's strength has not been exhausted, it can easily be converted at the same time into an operation for the radical cure of the hernia, and relieve the patient from after dangers that may arise.

TREATMENT OF CATARACT.

BY J. H. SHORTER, M.D., MACON.

This is entirely surgical. With exception of some diabetic cataracts, none other is influenced whatever by any medicinal course.

My friend, Dr. Richard Kalish, of New York, has for some years practiced a certain long continued massage of the globe in cases of incipient and immature cataract, and claims for it good results, improvements in most of his cases, and in some a clearing up of all lenticular opacities. My own experience in this, however, is very limited. I tried the procedure in one case, and in this it actually seemed to hasten the progress of the opacity.

As the history of cataract is very ancient, so from an early civilization surgical efforts have been directed towards relief of this obstruction to sight. Old Egyptian papyri contain accounts of treatment of cataract somewhat after the manner of depression in vogue comparatively recently.

All operations for removal of cataract have been by one of these methods—depression, discission or extraction.

Depression(or couching), practiced since the middle ages up to a few decades since, is no longer resorted to. In performing it a sharp needle was passed through the sclera, the point of it engaging the lens, then by gentle teasing the latter was dislocated and pushed down into vitreous chamber and out of range of the pupil.

Depression of the opaque lens, or couching, as commonly called, is, when neatly done, an ideal operation. Danger

or risk in the proceeding is very slight; there is no mutilation of the eye, and to the keen satisfaction of the patient sight is restored immediately.

Were this the end of the history the result would be perfect and leave nothing to be desired, but unfortunately such is not the case. The lens, instead of disappearing by resorption, in its now abnormal position, resting generally on the sensitive ciliary region, sets up a low grade of cyclitis or choroido-cyclitis, with eventual destruction of the sight of the eye, and not infrequently sympathetic damage to the other.

Discission, or removal of the lens by splitting or laceration of the capsule, is only applicable to so-called soft cataracts—that is, opaque lenses without nucleus. Clinically we find this condition in persons under age of twenty-five. After thirty discission is not well applicable. Not only is there a nucleus which will not absorb, but swelling of the cortex is badly borne by elderly people; glaucomatous tension is easily set up and inflammatory reaction apt to occur. The operation is likewise not possible in cases of thickened capsule. When the pupil is bound down by extensive posterior synechiæ it is well to make a preliminary iridectomy. The operation is simple, but requires at same time a good judgment as to selection of cases and degree of laceration, combined with proper delicacy of touch. Bowman's mode is generally used, but I prefer Knapp's knife needle. The pupil, dilated to maximum, is reached by the point of the needle passed through lower outer quadrant of the cornea, and the capsule divided by one or two strokes, the instrument being held very lightly and withdrawn by a quick movement to avoid further incision of the cornea or escape of aqueous. The operation produces practically a traumatic cataract, the further progress of which is eventual total resorption, following the course already described. Frequently the insufficient capsule

wound closes and the process of resorption ceases, when the operation must be repeated perhaps twice or three times; but still it is safer at first operation, not knowing the behavior of the lens under injury, to make the capsule incision small and invade only the superficial layers of the cortex, for in some people there seems to be a tendency to great and rapid swelling of the lens after injury, which may set up irido-cyclitis or other inflammatory reaction, or even a condition of genuine glaucoma, with increase of tension, hazy cornea, contracted field and eventual destruction of sight by pressure atrophy of the nerve fibers. It is well to watch the case at first, and if any of the above mentioned untoward symptoms arise be prepared to combat them. The best antiphlogistic treatment is by ice compresses; cold not only decreases the reaction, but diminishes the tendency to swelling of the lens. If this does not relieve the symptoms, make a large paracentesis of the cornea with a lance-shaped knife and evacuate the fluid mass of detritus, etc., filling the anterior chamber.

A very rapid removal of soft cataract can be effected by making large division of the capsule and deep cuts through the substance of the lens, which rapidly swells up, breaks into fragments and fills the anterior chamber in a day or two; then by linear incision of the cornea, depressing at same time the posterior lip of the wound, the contents of the anterior chamber, and with it almost the entire pultaceous lens mass, is evacuated. In England and on the continent the nozzle of a syringe is sometimes introduced into anterior chamber and the semi-fluid contents sucked out, but this proceeding is attended with risk, and has not found favor in America.

Discission is performed chiefly for congenital and lamellar cataracts.

In cases of congenital cataract it is best to operate very early. Infants, even of two weeks old, bear discission well

and with very little apparent reaction, and howsoever much the existence of an amblyopia ex anopsia may be disputed by some ophthalmologists or physiologists, it is a clinical fact that, when the subject of congenital cataract is operated on later in life, the results obtained, so far as vision is concerned, are disappointing. The same holds true as to lamellar cataract developing in very young children. Shutting out the light stimulus needed for proper development of the retina is the probable explanation.

TRAUMATIC CATARACT.—Unless increase of tension or other untoward symptoms demand, it is best to abstain from any operative proceedings until after considerable time, when the period of all inflammatory reaction has passed by. Furthermore, nature itself by resorption may effect a spontaneous cure.

COMPLICATED CATARACT.—The rule should be invariable to abstain from any operative interference until time of all inflammatory change has passed. Attacking complicated cataracts is generally a thankless task, anyway. Sometimes eyes may be poor from glaucoma and improved by iridectomy.

SENILE CATARACT.—Extraction of the lens is sole treatment applicable to this. Before proceeding to operate a most thorough examination, objective and subjective, ought to be made; objective, as to character of the lens, size of nucleus, depth of anterior chamber, condition of iris or existence of adhesions, whether simple or complicated, entirely ripe or still immature and swollen, existence of corneal opacities which interfere with sight; subjective as to qualitative and quantitative perception of light, limitation of visual field, etc.

Period of maturity is most favorable for performing extraction. Not only is the operation easier then, but anterior chamber being of good depth and the capsule easily cut or torn, the risk of reaction and complication is less.

At full maturity the nucleus slips easily out of the capsular opening, and the cortex being separated from the capsular wall, as has been described, is readily and cleanly pressed out ; whereas, when immature, especially in swollen lenses, there is intimate adhesion between the two, and remnants of cortex invariably remain behind, which not only neutralize partially the immediate results of the operation, but act as irritants setting up inflammatory changes.

The progress of cataract towards maturity is sometimes very slow, a condition which is intolerably tedious to the patient when both lenses are nearly equally clouded and sufficiently so as to interfere with comfortable sight. For speedy ripening of the cataract in such cases several operative procedures have been resorted to. That of Foerster is perhaps most frequently done. In this an iridectomy is performed, and the portion of the lens inclosed in the pupil and coloboma is stroked and manipulated through the flabby cornea which is readily depressed, the aqueous support being withdrawn. A similar performance after simple paracentesis of cornea and without iridectomy has been also suggested. My friend, Dr. Born, of New York, inserts an instrument, which of course must be very smooth and perfectly sterilized, through the corneal opening, and with it strokes the lens directly. By this latter device I have ripened a lens ready for extraction within three weeks in an eye where the cataract had remained almost stationary for a year. None of these operations are entirely without risk, but the danger is less than in operating on a swollen lens, and to ripen a cataract fit for extraction in a few weeks, which nature would require a year to accomplish, is certainly a great boon to the waiting patient.

The usual convenient subjective test of maturity of cataract is inability to still distinguish outlines of objects, count fingers, etc., but there are some slowly progressive

cataracts which can be nicely extracted, while still immature, by this test, and even with vision one-fifth or better. These are, however, essentially cases of nuclear sclerosis, and having very little cortex the cataract slips easily and clean out of the capsule. In such cases examination by focal illumination shows an anterior chamber of full depth and large nucleus; whereas, a shallow anterior chamber with shadow of the pupillary margin visible on the dark background of the nucleus, is evidence of a swollen immature cataract which ought never to be attacked except by necessity. Careful preliminary examination furnishes information as to size of nucleus. As a rule darker the lens and older the patient, larger the nucleus, but this varies in individuals. Good oblique focal illumination however, generally shows a dark reflex in depths of the lens which emanates from the nucleus.

Shall extraction be performed on an eye with ripe cataract when the fellow eye has still fairly sharp sight is a question to be answered in the affirmative; for although after the operation there will be no proper binocular vision owing to the extreme difference in the refraction of the two eyes, yet it is a decided advantage to the patient to possess an unrestricted visual field on both sides, and as senile cataract is always bilateral and the other eye will be blind eventually, operation will be required anyway sooner or later, and it is easier and safer to make extraction of a ripe rather than hypermature cataract.

Without dwelling on the subject at too great length, I will make a sketch of some details of the operation for extraction as usually performed at the New York Ophthalmic and Aural Institute. The patient is usually required to enter the hospital the afternoon beforehand, head shampooed, bowels made comfortable and condition of the conjunctival and lachrymal sac seen to. When about to be operated on three instillations of a four per cent. solution of

cocaine at intervals of fifteen minutes are made, the last at time of making the section, the patient being instructed to keep the eye closed in meantime, for if left exposed during use of cocaine the cornea quickly grows hazy. The triple instillation not only produces a better anesthesia, but the diminution of tension produced by it is of advantage. The patient is operated on in a chair furnished with a firm head clamp, placed in front of the window, or if a dark day, by artificial light from a good Argand burner concentrated on the cornea by a large hand lens. The lids, brow and cheeks of the patient are thoroughly washed with soap, especially the tarsal borders, which are often dirty and harbors of bacteria. The upper lid is reversed under surface, washed off and conjunctival sac flushed out with mild bichloride or boric acid solution. The instruments are sterilized in boiling water. The section, full large to allow free exit of the lens, is made about in the margin of the cornea avoiding too peripheral an incision. This allows ordinarily some conjunctival flap. The plan of the section is somewhat parallel to that of the iris. This section, whilst giving ample space for exit of the lens, does not gape or heal with a ditch-like separation of the outer lips of the cut—a condition pointed out by Bull as occurring in many operations. Of all the steps in the operation of extraction making a perfect section is the most difficult and most important, and upon it much of the success and neatness of result depends.

The capsule is opened by Knapp's cystitome. This instrument is furnished in pairs, one for each eye; the beak is very sharp and makes an obtuse angle with the line of the shape, which is also bent at an angle. With this instrument a very peripheral capsulotomy can be made entirely under the iris.

There having been no iridectomy performed, the third stage of the operation, the delivery of the lens, demands no little skill in manipulation, delicacy of touch and judgment

of proper force to exert. Steady pressure should be exerted on lower portion of cornea or sclera adjoining until the edge of the lens is seen to tilt up into the pupil; then continuing the pressure, but in a more longitudinal direction, depressing at the same time with a scoop the posterior lip of the section, the lens rides up easily over the iris and makes its exit through the corneal opening. The pressure can be made with the fixation forceps, which still have grasp of the conjunctiva, or with a spatula or scoop, the forceps being held by an assistant or liberated altogether. With escape of the lens the upper segment of the iris is often pushed up against or into the corneal opening, but this need not to be interfered with at present. It is safest and best to remove the speculum immediately after delivery of the lens, lift the upper lid smoothly over the flap and instruct the patient to keep the eye gently closed; after a few moments, on reopening the eyes, we often find that the iris has resumed its normal position. If such is not the case, it must be gently replaced with a spatula, the latter of course thoroughly sterilized in boiling water, and all folds and wrinkles smoothed out, making a perfectly round pupil. Fragments of cortex and other detritus in the pupil or anterior chamber are usually removed by so-called "milking out," a manner of pressure and counter-pressure similar to that by which the lens was expelled; by this manipulation the iris is pushed into the wound or even prolapsed, and must be again replaced. All remnants of capsule in the wound (often difficult to see) are carefully removed, for not only do they by mechanical obstruction retard the healing of the wound, but seem to act as canals for conveyance of microbes into the globe.

Some surgeons, especially on this continent, in their zeal for antisepsis, syringe out the anterior chamber after every extraction, but this proceeding has rightly fallen into disrepute with most operators. For not only is it entirely

useless when the operation has been clean, but we have record of cases where so much corneal opacity has been produced, probably by irritation of Descemet's membrane, as to diminish the visual result by one-half or more. This is peculiarly the case when solutions of mercuric chloride have been employed. Irrigating the edges of the wound gently with a syringe seems to be, however, often useful, washing out little scraps of capsules and pieces of transparent cortex which, getting between the lips, might cause mechanical interference with rapid healing of the wound. After the edges of the conjunctival and corneal flaps have been smoothly coaptated, the patient, with eyes gently closed but not bandaged, is led from the chair, undressed by an attendant and put to bed. Some minutes later the eye is again carefully opened and examined. If the iris is still in proper position, the lips of the wound nicely applied, and everything seemingly right, both eyes are closed up with pieces of gauze, covered with damp cotton and held down by strips of isinglass plaster from the brow to the cheek. The patient is ordered to lie and sleep quietly on the back until next morning, by which time the lips of the wound having probably agglutinated, he is allowed to turn on the side of the well eye.

Having the patient to walk from the operating chair, be undressed and put to bed with eyes still unbandaged is of considerable advantage, as furnishing the best criterion of the behavior of the iris; for if after all the exertion made by the patient the iris still remains gently in its normal position with a good round pupil, it is fairly safe to conclude that a prolapse will not occur later unless from accident or gross imprudence. If on the contrary the examination shows the iris already prolapsed, it is an indication of bad tendency, and an iridectomy is usually done at once. In sleep a patient may rub or strike the eye with sufficient force to break open the loosely closed wound and cause a

prolapse of iris or even of vitreous, and possibly an intraocular hemorrhage. So when a patient seems nervous or is a restless sleeper, we tie the hands by a long tape to the foot of the bed, not tight enough to annoy him but short enough to prevent raising the hands to level of the face.

A slight pain or smarting, diminishing after some hours, means nothing. A pain continuing or starting anew and increasing in violence is ominous of intraocular hemorrhage, infection of the flap or other grave trouble. A sudden pain disappearing soon is generally due to a prolapse; one coming on some days later, unless due to trauma, is usually from iritis. The patient complaining of no further discomfort, we leave the dressing on the eye uninterfered with for three or four days, or even longer. Then the lids are carefully washed and the eye looked at. We count ordinarily on finding everything doing well, wound healed and smooth, anterior chamber fully restored, cornea clear and pupil reacting well to light. If there be a lack of luster in the iris we instill a drop of atropine. We now allow the patient limited use of the other eye whilst taking his meals, etc. The lids are washed twice a day and fresh dressings applied, and the patient is kept in a darkened room for a week. If weather be pleasant he is allowed to go home in ten or twelve days.

I am aware that for some years past protests have been made, and by good authorities, against this rather rigorous confinement of patients after operation and much greater latitude pleaded for. Dr. Chisholm, of Baltimore, Dr. Michel and others are advocates of almost unrestricted liberty to patients, simply sealing the lids with adhesive plaster and allowing walks about the room the day after operation, etc., but I could never bring myself to their views. Personal experience has taught us that the danger which is incident to all newly operated eyes, of reopening of the freshly closed wound, with consequent prolapse of

iris or of vitreous, is greatly augmented by any physical exertion on part of the patient. And certainly a larger proportion of patients so liberally treated have subsequent iritis. So in an operation of such importance as is cataract extraction, upon the success of which the patient's future happiness depends, we may well ask: Why take any additional risk? In elderly people with feeble circulation, who bear confinement to bed badly, we take into consideration the possibility of a hypostatic congestion of the lungs. I have seen three cases of an acute temporary dementia from being shut off from the light as the only apparent cause.

As to the instillation of eserine before closing the eye, we formerly did it in all cases, but more recently in only a certain proportion of them. It probably dimishes the tendency to prolapse of the iris, but doubtless increases risk of iritis and adhesion.

As to antisepsis in eye surgery, we should always cleanse the conjunctival sac as well as possible, but we cannot by scrubbing and washing make sure of its sterilization, as can practically be done with the skin of the abdomen for instance; but, fortunately, it is in most eyes fairly clean, and by scrupulous care we can at least be absolutely sure that we, of ourselves, introduce nothing of sepsis into the eye by instruments or hands. The chief focus of suppurative infection about an eye is doubtless the lachrymal sac. This should always be examined, and if there be any dacryocystic blennorrhea, the operation should not be done until the lachrymal sac is cured, or has been obliterated.

The instruments—Graefe knife, well known, and the Knapp cystitome have been already described. We use a speculum with long drooping shanks, with some weight on the spring end. This causes a tendency to tilt up the blades, so that in dilating the palpebral fissure, the lids are

held off from and no pressure whatsoever exerted on the globe.

As to iridectomy, there are reasons and arguments, *pro* and *con*, but in all cases where not contraindicated, our experience is in favor of the simple extraction without iridectomy. More skill and dexterity are required in the third stage of the operation—that is, the delivery of the lens. Also, the danger of prolapse of iris is an objection. These are chief reasons against. In its favor, the avoidance of further mutilation of the eye and keeping a round pupil responsive to light; but the most important consideration by far in its favor is the greater safety which the intact iris offers against invasion of bacteria and consequent infections of the deep parts. That this is a great safeguard, experience seems to have amply proved, for, following up the after history of extraction cases, a much larger per cent. of those damaged or lost later on by iritis, irido-choroiditis or cyclitis, were of those on whom iridectomy had been made. In extraction cases with iridectomy, every remnant of capsule caught in the wound may make a gateway for entrance of microbes. There are of course many cases in which iridectomy is certainly demanded, as when the patient is very unruly and irresponsible, when the pupil is stiff or iris atrophied, when there is tendency to increased intraocular tension, where the iris is difficult to replace or shows inclination to again prolapse after reposition. In some cases of very large nucleus, the entire lens seeming to be sclerosed, it may be difficult to pass the cataract through the pupillary space without enlargement by iridectomy. When iridectomy is done we make the coloboma as small as possible.

TREATMENT OF PROLAPSE.—When large and discovered early, that is within the first twelve to eighteen hours, when the wound is still not firmly closed, it is perhaps best to ablate it, making a clean iridectomy. If not discovered until

later, when the wound is comparatively firmly closed, and the parts all agglutinated, it is doubtless best to leave it alone. The same rule holds true as to treatment of prolapse occurring in connection with penetrating wounds or after perforating ulcer of the cornea, in regard to which there has been a change of opinion in recent years on part of many careful observers. Formerly the ablation of all prolapses of iris, so soon as discovered, was taught as a maxim, but experience teaches that the eyes are safer if they are not interfered with.

The presence of a prolapse usually causes, it is true, a high degree of astigmatism, but the greater freedom from risk of infection of the deep parts more than compensates for this imperfection. The blocking up of an opening by iris tissue certainly makes a barrier against ingress of bacteria.

SECONDARY CATARACT.—Careful study of the subsequent history of patients on whom lens extraction has been performed leads to the conclusion, based on examination of great numbers of cases, that secondary cataract needing operation is the rule, not the exception. For statistics to be of full value the examination should be made some months or a year or two after the extraction, when testing will show in a majority of cases a deterioration of vision from that obtained a few weeks after the operation. This impairment of sight is due to the formation of a pupillary membrane and to wrinkling of the posterior capsule. The proper treatment is by discission, and the shortest reasonable time after the extraction that it is done the better. This is also just contrary to former teachings, that a long interval of time should elapse after an extraction before any further interference with the eye is permitted. We find by experience that this secondary operation can be safely done, and with very slight risk of reaction, within a fortnight or three weeks after the primary one. Done then there is the

immense advantage of dealing with a membrane which is still soft and easily cut, but which a year later will have still further impaired the sight and become tough to deal with except by iridectomy.

The discission, though in itself a simple operation, is one requiring much delicacy of maneuver. Knapp's knife needle is decidedly the best instrument for the purpose. The point and cutting edge are exquisitely sharp, and the shank has such taper as completely fills the corneal puncture and prevents any escape of aqueous whatsoever. One of the essentials to success in this operation is a perfect illumination of the pupil, which should be dilated. For this purpose artificial light in a dark room, from a good Argand burner, focalized in the field of operation by a large hand lens, is much better than diffuse sunlight.

When sufficient time has elapsed for the membrane to become toughened, much judgment and sharp view are required to select thin places in the membrane and to avoid attacking the thick bands which might not readily cut. For it is a matter of great importance that there should be no undue traction made on the ciliary processes. At the New York Ophthalmic and Aural Institute this operation has become so frequent that of all extractions made probably eighty per cent. are subjected to this secondary treatment by discission, and the gain in visual activity has certainly proven a warrant for its performance. I have not statistics at my command, but know that the improvement in vision has averaged from ten per cent. to seventy per cent., and this improved sight is permanent; whereas, as said above, the primary vision, no matter how satisfactory shortly after extraction, often deteriorates. Mishaps do occur, and the operation is not without danger even when done on favorable cases. Cases have been reported where the eye was destroyed. I have seen two such, but it was some years ago and not in the Institute. The risks are chiefly

of lighting up an irido-cyclitis or bringing on glaucoma. Both are probably caused by irritation of the ciliary bodies set up by traction on them, and the former sometimes by sepsis, which latter of course can be guarded against. I have observed some hundreds of cases at the Ophthalmic and Aural Institute. There were no cases of any severe type of cyclitis. Glaucoma occurred several times, but was in every instance arrested before causing any serious danger to the sight, though in some cases it was necessary to perform an iridectomy, as in ordinary idiopathic glaucoma. Most of the slight cases were cut short by use of eserine or pilocarpine.

A PLEA FOR THE CLOSER RECOGNITION OF DERMATOLOGY AS A SPECIALTY.

BY BERNARD WOLFF, M.D., ATLANTA.

The basis of division of labor is individual fitness. A worker in metal is more skilled than a village blacksmith, and a portrait painter than a sign painter, though they both work with the same tools to the same end.

It is a physiological law that exercise of an organ increases its development, and brings into dynamic whatever of potential energy it possesses, so that within judicious bounds it reaches as near perfection as is possible, and is capable of carrying out to its fullest the functions bestowed upon it in the animal economy. This is a principle that can be applied with common fitness to nature and to the higher mental and moral qualities of man, and is shown alike in the brawny arm of the blacksmith, the skilled hand of the artist, the magnificent conception of Edison, and the generalship of Napoleon. And it applies with peculiar adaptability to the science of medicine, for however self-reliant and self-confident the general practitioner of medicine may be, and however rightly or wrongly he may be impressed with his own ability and technical skill, he prefers to solicit the aid of a professional surgeon in the performance of an intestinal anastomosis, or of a gynecologist in the operation for closure of the vagina. And this does not militate one whit against his ability, or his skill, or judgment, or medical acumen, but is merely the deference of the mas-

ter to the past master, and a recognition of the fact that concentration of attention and work in a fixed and given direction tend more to the production of perfection than such attention and work diffused.

It was for this reason that specialism in medicine was born and grew. The ever increasing need of more skill in diagnosis, in finding and carrying out appropriate methods of treatment, in concentration and system, grew out of the jumble and confusion in which the art of physic found itself in the latter part of the eighteenth and beginning of the nineteenth centuries. It was then that progress in our knowledge of medicine went forward with giant strides, and each enduring and substantial addition broadened by so much its scope. The medical man, with his spring lancet, his crude *materia medica*, his gruffness and air of mystery, vanished into night before the light of purer science.

McDowell demonstrated that abdominal section was not of necessity and invariably fatal, and as a corollary to the discovery of anesthesia, surgery, like Nicodemus, was born again. Helmholtz, Liebrecht and Türck individualized laryngology and ophthalmology, and more tardy than all, came the pleas of Willan, Wilson, and Hebra, for dermatology. These men, with infinite labor and minute and painstaking observations, were able to collect the *disjecta membra*, to connect and mould them into shape. Naturally, for they worked without guidance save that of large experience and accurate discrimination, their work was crass and incomplete, but they were pioneers and opened the way and made easier the work of those who were to come after. So it was that in England and on the continent of Europe, men bent their energies and applied their talents in this new direction, and elaborated the province of dermatology and made it such as it is to-day. It is now recognized as a distinct and separate branch of medicine, with its chosen

disciples, with its own therapeutics, but in some manner not be explained logically, it has failed to meet the professional and popular requirements for a specialty.

One hears, on all sides, the assertion that the people have not been educated up to dermatology as a specialty.

What does this mean? Is it that it does not require the unctious and impressive use of the laryngeal mirror, or the speculum and the *tactus eruditus* of the gynecologist and all the little tricks of trade that inspire the confiding patient with a proper regard for the superior knowledge and engaging skill of the specialist in these branches; or that it does not possess the whirring batteries and maze of ingenious devices, to say nothing of hypnotism and suggestion, that go so far to make the lot of neurologists rose-colored? The neurologists owe to Charcot a debt of gratitude that should last as long as life itself, for the introduction of his suspension apparatus, for a man who has been hung and has not died, does not hide it under a bushel. A lesion of the skin lies before us in all of its unmasked nakedness. It requires no reflecting mirror and no educated touch, and it seems as though the diagnosis should follow as a matter of course. It would be an insult to your understanding, as physicians, to attempt to demonstrate the fallacy of this, for as you well know, there is no branch of medicine that requires more constant and assiduous study, more thorough drilling, and more continued application of the principles of differential diagnosis than does dermatology; and therefore it is not a thing to be gone into lightly nor dabbled in by the dilettante. It is, par-eminence, the branch that requires what is implied and accepted in the word "specialism." Though the deviations from the normal appear visibly upon the skin, yet they appear in such varied combinations that none but the trained and practiced eye can recognize and isolate the components of the polymorphic picture.

But the causes of the ill success of dermatology lie deeper than the mere superficial lack of show.

The facility with which disease in the skin is observed and apparent obviousness of its character put it within the reach of all. In this fact lies the greatest obstacle to the success of the specialist. The supply in the medical profession far exceeds the demand, as each year adds its quota of new graduates who expect a livelihood from their practice; the competition becomes keener and struggle for existence sharper. This competition instead of being a generous rivalry, becomes a fratricidal war, not a frank and open engagement, but a guerrilla warfare, made up of the ambuscade, the blow from behind delivered with all of "the stealth and swiftness of the midnight murder." The fittest and strongest survive, the weak inevitably go to the wall. Then to the victor comes the reward. The general practitioner takes all within reach; for he may use the talents of silver, and though it may not suit him, yet retain the goodly Babylonish garment. In this warfare, the specialist in dermatology poses as a camp-follower, and comes after to collect the rejected crusts and whatever of value that had been overlooked. But to abandon this bellicose metaphor the position of the dermatologist is a peculiarly difficult one. He is refused a means of livelihood, and yet when he endeavors to enlarge his sphere of usefulness, so as to embrace other things than dermatology, and acquires the reputation of one who "pays particular attention to diseases of the skin," i. e., dabbles in general practice, he appears as a rival, and there arises from the general practitioner the loud cry of "Hands off, or we will withdraw our patronage." Or again, should an attempt be made to supplement his slender income by fees for insurance examinations, and the like, the same hue and cry is again raised, and he must abandon that forthwith. No, with him it is forever "Cob-

bler, stick to your last, you exist merely by courtesy, and you must be very circumspect or you will be dropped altogether." And yet this work, and this work alone and uncombined, must be done by some one. The steady march of progress in medicine inexorably demands it. Who is philanthropic and self-sacrificing enough to do it?

Our work comes to us almost without exception from three sources, from personal friends, from those who have referred apparently incurable, and therefore undesirable, cases to us, and lastly, from those who, from conscientiousness, honesty and modesty, have explained to the patient that it would be more to his interest to consult one better equipped to undertake the case than themselves. It is from the second source that the bulk of the supply is derived, and we become the Ultima Thule of abandoned eczemas and the like, and the last resort of the hopelessly chronic. Even under these circumstances if we fail to substantiate our claims as specialists and bring speedy relief, our reputation is undone, our occupation all gone.

It is said that specialism narrows, and it is true, but is not the narrowness of the cutting edge. Specialism is to general medicine what the rapier is to the broadsword, the veteran to the recruit. But if this narrowing means that the edge is sharpened while the blade rusts, the speciality of dermatology cannot rest under such an accusation. It is little inclined to contract the view and much to enlarge it. It goes hand in hand with bacteriology and pathology, and indeed there is scarcely a branch of medicine so far-reaching and comprehensive and so almost enclycopedic in its scope. For the skin is an organ intimately concerned with all other organs, sharing in their health and disease. There is scarcely a single functional or organic disturbance of the internal organs that does not manifest itself in a degree more or less marked upon the skin. We can observe the ruddiness of health, the pallor of anemia, the cachexia of ma-

lignant disease, the erythema and specific manifestations of the exanthems, the yellowing of jaundice, the bronzing of Addison's disease, and so in endless combination. But the skin is not only a part of the whole but has its own individuality and diseases and morbid conditions peculiar to itself, bearing no relation to the system at large. Hence a proper consideration of the dual nature of skin disease should be sufficient to convince one that our knowledge of medicine in general is not necessarily diminished by pursuing this specialty.

The specialty of dermatology labors further under the imputation of incompleteness and inefficiency. Skin diseases are notoriously chronic, owing not to any quality inherent in themselves; but because perhaps the course of nature toward healing was deflected by injudicious treatment at the outset; but when dealing with chronic conditions anywhere is not our materia medica very weak and uncertain? In skin disease this quality of inveteracy has given rise to this imputation. Consider morbid conditions in other organs. Are better results gotten in the treatment of organic lesions of the heart, lungs, liver or kidney, in post-nasal catarrh, cystitis, posterior urethritis, and so on, than in eczema, psoriasis, sycosis, acne? Obviously not, and yet the victim of any one of these disordered states of the first category reckons his time with the family practitioner by years, while the sufferer from cutaneous disease tries once, twice and sometimes oftener a systematic course of treatment, and then failing to get relief goes to the doctor no more, and carries his cross complainingly but inexpensively. This condition of affairs can be avoided by the reasonable course of referring the case in the beginning to the specialist if there exist doubt as to its nature. He should be able to recognize it, to treat it properly, and thus prevent its becoming chronic. It is against human nature and precedent to expect that such a course

will be pursued, but is it not reasonable, is it not just, is it not in accord with the principle of the greatest good to the greatest number? The cuneiform inscriptions are not difficult to translate by the archeologist, and lesions of the skin should not be more incomprehensible to the trained and practiced dermatologist.

I do not give these references to the general practitioner of medicine in a spirit of offensive criticism, but as an honest inquiry, contemplating the fixing of the boundary line where his utility ends and that of the dermatologist begins. And to further relieve myself of the imputation of ill-feeling to the general practitioner, that most useful and honored member of society and best friend of the specialist, and to disclaim the suspicion of harboring a grudge against him, I shall touch upon the system of medical education which produced us both, and show the differences and departures from the usual in the case of the dermatologist. The scheme of medical education in America consists in attending a certain number of courses in a recognized school of medicine, didactic instruction in the classical branches, more or less thorough and systematic instruction in the several departments of the diseases of the eye, ear, nose and throat, gynecology, obstetrics, genito-urinary and venereal diseases, and if the fates be auspicious and requisite amount of work and study done, the final acquirement of a diploma and license to practice. But where does dermatology figure in this educational equation? It does not appear at all, or if it does, it is in combination with general surgery, medicine, or pediatrics, or consists in a few desultory clinical lectures which leave but little impression upon the running mind of the student. There is not a college in the United States in which didactic lectures on skin diseases appear in the curriculum, and yet it is this province which produced Wilson, Hebra, Neumann, Kaposi, Cazenave, Unna, Hutchinson and many others

equally distinguished to be given over to the unrecognized sovereignty of the squatter, and its only expression be in the florid pretensions of the quack?

It is, therefore, with scant preparation that the future specialist in dermatology begins upon his chosen work, and he then begins to appreciate the difficulties in his way. He finds ample clinical material, but so little separated and concentrated that he must strip off a great deal of rind before reaching the kernel. If the obstacles are too formidable he becomes forced to Vienna or Paris, where he can find dermatology studied and taught in its integrity and receiving as close attention as ophthalmology or gynecology.

So it is that a young man who expects to engage in the practice of general medicine and surgery can readily and at moderate outlay of money obtain an excellent, practical education and training, but if he wishes to fit himself for the exclusive practice of skin diseases he finds that it must be done at the cost of much time, money and personal exertion. If this is true, as it undoubtedly is, and if his aims are high and his ambition the advancement of medical knowledge, is he not entitled to recognition and support? And cannot it be seen that his course has been a step forward and beyond the usual and commonplace?

To the practitioner produced by the system briefly outlined above even the nomenclature of skin disease is indifferently known and appreciated, and it is reasonable to suppose that the lesions themselves are equally unfamiliar and indefinite. Might he not confound dermatitis—herpetiformis—with scabies, eczema with a large number of other cutaneous disorders? But this lack of accurate knowledge is to be laid to the account of faults and deficiencies in the educational advantages in this branch, and to the discouraging fact that the profession at large and the people are not quite educated up to dermatology as a specialty.

But it is not the end nor intent of these desultory re-

marks to go into what the theologians call apologetics. I simply wish to enter a plea for a practical recognition of dermatology as a specialty, a more equal apportionment, a fairer division and a more favorable opportunity of demonstrating the pretensions of the dermatologist to a more advanced knowledge of his subject, than, from the reasons already briefly given and, I hope, understood, the average practitioner of medicine can claim. I do not for a moment disparage his efficient work in cutaneous disease, but he must lack the fullness of knowledge that inevitably comes from large experience and continued study in one direction. "For was not the gleaning of the grapes of Ephraim better than the vintage of Abiezer?"

THE TREATMENT OF TYPHOID FEVER.

BY M. A. CLARK, A.M., M.D., BARNESVILLE.

In the treatment of any disease, the first duty of the physician is to pay strict attention to prophylaxis and hygiene. This is especially essential to the successful management of typhoid fever.

With these essentials duly observed, the majority of cases of typhoid fever will recover without any medicinal treatment. Hence we should be very wary in making any decided claims for medicines. We do know, however, that there are remedies which will not only mitigate but also shorten the disease. Such being true, it is the duty of every physician to seek diligently for those remedies and to faithfully and judiciously apply them.

In this paper I propose to set before you what seem to me to be the best of these remedies.

Before referring to the subject proper, allow me to say that I fully believe that this disease is due to some powerful germ, no doubt the bacillus of Eberth, which produces not only very marked lesions in the parts invaded, but also very decided nervous phenomena and great waste of the whole system. Then, if we can find some remedy that will check this dread germ in its ravages and destroy the poison which it produces, we have found that which will prove a most powerful adjuvant in the treatment of this disease.

Our hope lies in the antiseptic treatment. In fact, it seems to me that this treatment is, par excellence, the one from which we may hope to derive any decided results.

Henry claims best results from thymol; Rossbach and Wolffe, from naphthalin; Pepper, from silver nitrate; Thistle, from salol; and calomel is urged by others. All of these agents are no doubt good and well worthy of trial. Having derived such good results from the use of another most powerful antiseptic, I beg to offer it as the one for the treatment of this disease, even though it falls short of the definition of an intestinal antiseptic as given by Bouchard. "It should be more or less insoluble and exert no toxic action on the organism." This agent does exert no toxic effect upon the system, but it is soluble, being itself a solution.

I refer to hydrogen peroxide, which all will admit is a most potent antiseptic when locally applied. Obtaining such excellent results from its local use, I ventured to test it as an internal antiseptic, believing that it would prove most effective. Having been rewarded with most wonderful results in the few cases in which I have used it, and feeling so sure of its continued effectiveness, I offer it to you for your consideration on this occasion, and hope some of you will deem it worthy of a trial.

If given at onset of the disease, it will not only mitigate the severe symptoms but will also check the disease itself. The tongue will rapidly clean off; tympanites will subside or not appear at all; the diarrhea will diminish; no marked nervous phenomena will ensue, and the disease will spend its force with comparatively little wear upon the system.

I give from twenty to forty minims of some reliable fifteen-volume solution, preferably Marchand's, well diluted, every two or three hours till slight nausea is produced, and then every four hours till convalescence is well established.

With its use from the onset I find no necessity for antipyretics, the temperature never rising sufficiently high to

authorize their use. If, however, it becomes necessary to resort to some means of reducing temperature, I prefer phenacetine in five-grain doses every four hours.

The Brand method may work well in hospital practice, but it cannot be used effectively in ordinary private practice. If the phenacetine is followed by a mild stimulant and used only to reduce high temperature, there will be no unpleasant effects. I cannot say as much for the other coal tars or even quinine.

I begin at the first to attend carefully to the diet of my patients, striving to prevent all waste possible. Milk is by far the best diet. Given in small quantities and at frequent intervals, it is usually well borne. If, however, it is not well tolerated, I peptonize it, and then there is no further trouble. Horlick's malted milk, beef tea, and some reliable beef extract are quite nutritious and are valuable aids to the milk. Solid food is rigidly withheld.

Water should be given not only in connection with the medicines but also at frequent intervals, whether called for by the patient or not. It is cooling and refreshing to the patient, aids in the elimination of poison from the system by its diuretic effects on the kidneys, and keeps up the amount of body fluids. It should be deemed one of the important factors in the treatment of this disease.

The mineral acids, inasmuch as they are aids to digestion, should be given in small doses three or four times daily. I prefer nitrohydrochloric acid in ten-minim doses well diluted, three times daily.

Alcohol should no longer be considered routine treatment, but should be used only when symptoms absolutely indicate. Properly treated, few patients will require the constant use of any alcoholic. When used it should be given cautiously, as too much will cause unfavorable symptoms and is worse than when not used at all.

Turpentine stupes, or turpentine locally applied, may be

used with benefit whenever there is tympanites. I find it unnecessary when using hydrogen peroxide.

If the diarrhea is excessive, that is, more than six to eight stools daily, it should be controlled by nitrate of silver, bismuth or some other astringent. I prefer bismuth subnitrate in fifteen to twenty-grain doses, or salicylate in five to ten-grain doses, every two to four hours. I have found no trouble with diarrhea so far, but if I should I would employ, in connection with the bismuth, occasional enemata of weak solutions of peroxide of hydrogen, having found them very effective in the summer diarrheas of children.

If I should be so unfortunate as to have to deal with what are called the characteristic typhoid phenomena—sordes on the teeth, low, muttering delirium, picking at the bed-clothes, subsultus, etc.—I would use the sedative dose of calomel, thirty grains. With the proper treatment from the outset such symptoms should not occur.

Other complications should be treated according to the usual methods. I fully believe, however, that they will rarely occur if this treatment is used from the onset of the disease.

During convalescence it is very essential that the patient be rigidly dieted. The liquid diet, with a little broth, milk toast, or soft-boiled eggs, should be given till the third week of convalescence, and even then solid food should be used most cautiously.

I herewith submit two cases illustrative of this method of treatment and showing results of such treatment.

Jamie R., age ten, family history excellent, previous health good. Had been sick with typhoid fever ten or twelve weeks and was in the midst of the second relapse when I was called to see him. Saw him first in afternoon. Temperature 106° F., pulse 140, weak and irregular, marked

tympanitis, pain and tenderness in right iliac region, very restless, delirium at intervals.

Gave three grains of phenacetine with four teaspoonfuls of brandy every four hours to reduce temperature. Gave hydrogen peroxide, one ounce, during the twenty-four hours. Milk at frequent intervals and in small quantities. In thirty-six hours temperature was under control, tympanitis rapidly disappearing, delirium absent, and patient begging for bread. Continued the peroxide of hydrogen and nourishment. In one week the temperature was normal and convalescence was well begun. Recovery was very rapid and complete.

Annie L., age nine, family history good, previous health good. Returned from a visit to a place where there was an epidemic of typhoid fever. Had been sick about one week when I first saw her. Symptoms showed a well developed case of typhoid fever and prognosticated no mild type.

Began at once with twenty-minim doses of peroxide of hydrogen every three hours. Gave five minims nitrohydrochloric acid three times daily. Milk in small quantities often repeated. Used phenacetine and solal, one and one-half grains of each, to control restlessness and produce sleep during first two days. Afterwards continued the peroxide and nourishment. In less than three weeks convalescence was fully established and recovery was rapid and complete, there having been comparatively little exhaustion of strength and vitality.

TREATMENT OF TRAUMATIC EPILEPSY, WITH REPORT OF CASES.

BY J. I. DARBY, M.D., AMERICUS.

Within the two last decades there has perhaps been more scientific progress made in brain surgery than in all the past ages up to the beginning of that period, and, judging the future by the past, it does not appear unreasonable for us to expect the next decade to bring still grander developments than any yet achieved in this department of medical science. The modern surgeon, with his better knowledge of cerebral physiology and the use of antiseptics, has been enabled to go with his scalpel into regions where the anatomist of only a few years ago declared it fatal for him to intrude, and I predict that the end is by no means reached.

The vast amount of valuable knowledge accumulated by our profession has been gathered up from the field of operations by the multitude of busy practitioners, who have given us their individual observations and experiences in their special lines of work, and we owe the profession a debt of gratitude, as well as the contribution of any special knowledge we possess for what we have received from those who have preceded us, and for this reason I shall venture the reading of my paper on the treatment of traumatic epilepsy, not that I have any original ideas to offer, or much work to report, but in contributing my mite of experience I discharge an obligation due the profession by every working member of it.

As this is a body of medical doctors, and not mere students of medicine, I do not consider it necessary, nor at all

proper, for me to go into a lengthy definition and description of the symptoms of the different varieties of epilepsy, especially as it is my purpose to speak only of the traumatic variety of the disease, besides, feeling assured that you are all sufficiently well acquainted with the different phases of this malady to need no copied definitions from me, and for these reasons I shall proceed to speak of the causes and means of relief of such cases as are amenable to surgical treatment, and report a few cases in my own private practice.

Traumatic epilepsy is a disease of the nervous system, produced by an injury and attended by abnormal disturbance of nerve force, and, in most instances of the well-developed variety, by temporary loss of consciousness and more or less marked convulsions. In seeking for the cause of epilepsy we cannot fail to recognize the influence of heredity, even in the traumatic form, individuals of this class becoming victims of the disease from causes too slight and trivial to produce it in any except those of hereditary tendency or constitutionally weakened nervous systems. But there must be an injury producing its irritating effect, either directly or indirectly upon the brain, before we can have traumatic epilepsy. Sometimes it is caused by traumatisms, which appear to be slight and on distant parts of the body instead of being on the head. Frequently it happens that the disease does not manifest itself for quite a long time after the receipt of the injury, and in the beginning the attacks may be very slight, gradually growing more frequent and severe until the typical seizure is inaugurated, and the subject perhaps a hopeless victim. The most frequent causes of epilepsy are fractures of the skull, in which the bone is depressed and resting on the brain. Sometimes the outer portion of the skull does not indicate the extent of injury done in the inner table, which may be very extensively fractured, while the outer part appears but little

damaged. Irritable cicatrix have been known to produce violent attacks of epilepsy, and cease altogether upon their removal. Hematomas and pathological growths beneath the dura, resulting from violence, also have a causative relation to the disease. Malignant neoplasms, springing up in the cicatrix of wounds, have been known to produce it, and injuries on distant parts of the body have been recognized in a causative relation by such men as Dr. Briggs, whose case of diseased tibia is reported in Keen's "American Text-book of Surgery." The patient, who had both a depressed fracture of the skull and necrosis of the tibia, was operated on for the latter trouble, and five years subsequently had experienced no return of the epilepsy, notwithstanding the injury of the skull was not interfered with in any way, and this shows that wounds on distant parts of the body may produce it as well as depressed fractures and other lesions upon the head.

In 1888 J. T., an old Confederate soldier, aged about fifty years, came to me with an ounce ball in the left side of his neck, and gave the following history: During the siege of Knoxville, Tenn., in 1863, he was standing in a stooping posture and looking in the direction of the enemy when he was shot with a minie ball in the left superciliary ridge, the ball knocking the left eye out and passing in a circuitous route behind the ear and down in his neck behind the insertion of the sterno-cleido-mastoid muscle to the clavicle. That portion of the Confederate line where he was shot soon fell into the hands of the Federals, and he was left two days in this condition upon the field without medical attention, it being taken for granted that he was dead, but when a detail was sent out to bury the dead, they saw that there was still life in him, and sent him to a field hospital where medical attention was rendered, and resulted in his recovery. Twenty-five years having elapsed between the receipt of the injury and my first examination made it

difficult for me to say how much injury had been primarily inflicted, but it was obvious that the brain had been injured in the neighborhood of the left eye, and there was quite a depressed cicatrix in the superciliary ridge. He stated that after his recovery from the immediate effects of the wound there was but little trouble from it until about three years prior to the time he came to consult me, when he began to experience strange nervous spells when he would attempt to sleep on his right side. These spells gradually became more and more frequent and severe, until it was obvious to those who witnessed them that they were well-marked epilectic convulsions. After hearing his statement and finding the ball located as just stated, I suggested to him that his "spells," as he called them, might be due to the presence of this bullet in his neck, and advised him to submit to an operation for its removal, to which he readily consented, and I cut it out without the use of an anesthetic, he absolutely refusing to take chloroform or ether. The bullet weighed one ounce, and was slightly flattened and bent upon itself. The wound was treated after the usual antiseptic method, and healed kindly, and the patient soon began to manifest signs of general improvement, in that his seizures grew lighter and less frequent, which in less than a year from time of operation ceased altogether, and have not returned, notwithstanding the fact of his being a very intemperate man and receiving no medical treatment to prevent a relapse. I have frequently asked myself the question, whether his epilepsy was due to the pressure of the ball upon the carotid artery, interfering with the cerebral circulation when he lay down upon his right side, or whether it was produced by reflex irritation set up by the ball pressing upon some of the nerves in the neck, but I am disposed to believe that pressure interfering with the proper distribution of blood in the brain was the cause, es-

pecially as the epilepsy did not manifest itself until he was getting old, and the adipose tissue less abundant than at the time of receiving the wound, and for a good many years thereafter. When the adipose tissue in the neck had been absorbed, as it sometimes is in the aged, the ball came in more direct contact with the vessels, and produced more effect, and another reason for this opinion is that the seizure never came on while he was awake or sleeping on his left side. The man is still living in Alabama.

Sometimes, as before stated, the epilepsy does not come on for quite a long time after the reception of the injury, especially where the traumatism is slight, requiring considerable time for the meninges to become sufficiently thickened to produce the necessary pressure and become a source of long continued irritation and vexation to the nervous system. Injuries of the cranium received in early childhood frequently give but little, if any, discomfort until the period of puberty is reached, even in cases where the depressed bone rests upon the cerebral cortex. Sometimes the causative injury has been forgotten by the patient and his friends, the brain being quite tolerant of pressure and the sutures in the skull not fully ossified at this early period of life.

In 1884 I was called to see a young man in the country who, during his fourth year of life, was injured by a sharp-pointed stick falling from a tree on his head, producing a depressed fracture in the upper and rather posterior portion of the left parietal bone. A physician who was practicing in the neighborhood at the time was sent for and pronounced the injury of trivial importance, and did nothing more than apply a little axle grease, or some such remedy, and went home, leaving instructions for the family to send for him again if the patient's condition required it, but as there was but little suffering attending the wound, the doctor was not recalled, and the little patient was soon out

again and, to all appearances, as well as usual, and continued to grow and enjoy good health until he was sixteen years old, when he began to experience strange nervous manifestations occasionally, which, as time went on, became gradually more frequent and severe until a genuine case of epilepsy of *grand mal* was developed. Remedial measures were resorted to by his attending physician, and notwithstanding the intelligent efforts instituted by him, the seizures continued to grow more frequent and alarmingly severe, so much so that his life seemed to be in imminent peril, and in this condition I first saw him, in his nineteenth year. Upon examination of his head I found the cicatrix about one inch long in the locality mentioned, and learned from his mother the particulars of the injury, but failed to make either her or the patient believe at this time that the wound received in his infancy had anything to do in the production of his epilepsy. They could not understand how so many years of good health had passed away between the receipt of injury and the beginning of his epilepsy.

After telling them all about the necessity for a surgical operation and describing the character, dangers and reasonable hopes attending it, and failing to procure their permission to trephine, I went home and never saw the patient any more for two or three months; but the father of the boy finally came back and said that he, his wife and the patient wanted me to operate if I thought it could be done without destroying the life of the young man, and as there was nothing to be gained by delay, it was agreed that two days subsequent should be the time for doing the operation. Accordingly arrangements were made, assistants procured and at the appointed time we were on hand and ready to proceed with the work. The patient was anesthetized with chloroform and the scalp shaved and well scrubbed

with antiseptic solution. The integuments were turned back by making a horseshoe incision sufficiently long to enable us to get plenty of room to remove a half inch button of bone immediately in the most depressed portion of the cicatrix. When the bone was sawed through, the dura mater was found adhering to it, having probably grown into the fissure while the process of repair was taking place, but the attachments were shaved loose as close to the bone as possible, and after cutting away the thickened edges of bone with forceps for some distance, there being no other pathological conditions observed, the injured dura was stitched with catgut, the parts irrigated with carbolized solution and the integument returned to its proper position and retained *in situ* by antiseptic silk sutures. The patient rallied well from the chloroform narcosis and was but little shocked, considering the character of the operation he had undergone. The wound was dressed antiseptically and in due time healed kindly, and the patient made an uninterrupted recovery, and has not from that day until the present time had another well defined epileptic seizure, although he felt the aura and giddy sensations for several months after the operation, which gradually grew less and less, until they ceased entirely, and he is now living near White Pond, Ala., a healthy, useful and happy man.

I will mention one other case, which, however, is of too recent date to be of much importance, a sufficient length of time not having elapsed since the operation to determine how much benefit the patient will derive from it. The patient, a negro man, twenty-seven years of age, was struck on the head, seven years previous to the operation, with a pick handle, producing a depressed fracture of the upper portion of the frontal bone on the left side of the longitudinal fissure. The cicatrix was nearly two inches long and a considerable portion of the bone was driven down upon the brain, but the patient did not experience any great

suffering at the time of injury and never had an epileptic seizure until four years after the receipt of the wound, but when they were once inaugurated, they rapidly grew more frequent and severe, until the first of last January, when he was trephined by my partner, Dr. R. E. Cato, and myself. We removed two half inch buttons of bone about one inch and a half apart, and with a ronger cut away the bridge of bone between the openings made with a Gault trephine. The edges were very much thickened, requiring considerable work with ronger, but it was finally pretty satisfactorily done, and the integuments returned and held *in situ* by catgut sutures. The drainage consisted of a small piece of iodoform gauze which was left in the most dependent portion of the wound for three days, and then removed on account of a slight epileptic fit which was believed to be due to the pressure produced by the gauze becoming saturated and heavy with secretions from the wound. The wound was treated after the modern antiseptic method, and the patient made a good recovery and has not had another symptom of his former trouble, and says he feels better than he has for five years previously. He is taking large doses of bromide of potassium three times daily, which will be kept up for quite a good while to prevent a relapse. The only remedies to be relied on in the treatment of traumatic epilepsy is the trephine in depressed fractures and the scalpel in other traumatisms which may produce reflex irritation of this character; and when the bone is removed in fractures, the dura should be opened, and if the cortex of the brain shows signs of injury, it should be carefully cut away and the wound stitched with catgut and closed antiseptically. When the bone is not cut away in small bits, it may be replaced in the opening and expected to cause no trouble, provided the button is not thicker than the surrounding bone. Prevention is better than cure, and it should be the purpose of the surgeon to prevent these phe-

nomena by operation in all cases of depressed fracture as soon as he sees them, as the operation is more simple at that time, and if a button of bone has to be removed, he can usually select the locality for his trephine, and thus keep away from dangerous areas, such as the meningeal arteries and sinuses, as well as preventing strong adhesions of the dura and the development of epilepsy. After surgical operations for this disease the patient should be kept on medical treatment for at least two years to prevent a return of the trouble, and it is in this class of cases that we may reasonably expect good results. Bromide of potash in full doses has perhaps given the best results, but of late a solution of bromide of gold and arsenic given in five to eight-drop doses has given very promising results. The patient should, if possible, be induced to live a temperate and systematic life, sleeping regularly, eating regularly and keeping his digestive and excretory organs in a healthy condition. Especially is it necessary for him to abstain from the excessive use of tobacco and alcoholic stimulants.

CASE REPORT—EXTRAUTERINE SUPER-FETATION.

BY R. R. KIME, M.D., ATLANTA.

Case referred to me by Dr. Hall, September 28, 1893. Jennie Fuller, colored, married, age thirty years, had two children, youngest four years of age.

In January, 1890, had what she thought to be a miscarriage, believing herself to be pregnant some two or three months. At the time suffered severe pain, free hemorrhage, and passed what was thought to be material the result of a normal pregnancy.

Missing her flow again in December, 1892, with indications of pregnancy, but suffering so much pain, later a physician was called, diagnosing extrauterine pregnancy. Improved to some extent, but suffered occasional attacks of pain with no discharge of blood until the last of July, 1892, at which time there was considerable discharge of blood, and *severe attacks of pain;* since, at intervals of eight to ten days, discharges of blood occur, accompanied with considerable pain. Fetal movements were active and vigorous prior to attack of pain and hemorrhage in July; since then movements ceased, and breasts became flabby. At first visit, pulse 124, temperature 102.5° F., bowels distended, tympanitic, with evidences of infection. Examination revealed a large cyst containing fetus and operation advised.

September 30th, Drs. Crow, Davis, Gregory, Hall and Kime, Jr., saw patient, and concurred in diagnosis. Operation again advised, but refused, and patient died eight days after.

POST MORTEM.—Median incision revealed a large cyst extending from pubes above umbilicus two or three inches; cyst cavity reached without entering abdominal cavity. It

contained bloody, purulent, putrid fluid, a fetus weighing about six or seven pounds partially decomposed, with placenta *in situ*. Buttocks of fetus in anterior-superior portion of cyst, extending a little to left of median line, dorsum of fetus to the right, vertex R. O. posterior position, sutures felt plainly through rectum, partial decomposition of fetus, cyst wall inflamed and adherent to abdominal walls, intestines, bladder, uterus, etc. Fetus removed, placenta attached to fundus, and right side of uterus and cyst wall involving bladder, promontory of sacrum and ascending colon filled with coagulated blood not decomposed.

In removing placenta a second cyst was encountered in region of bladder and anterior to where uterus should have been, cyst posterior to pubes extending a little above and a little to left of median line.

In examination of patient this cyst was mistaken for the uterus. Opening cyst found it contained a macerated fetus, and from its state of decomposition, maceration, previous development gave evidences of having been encysted some months.

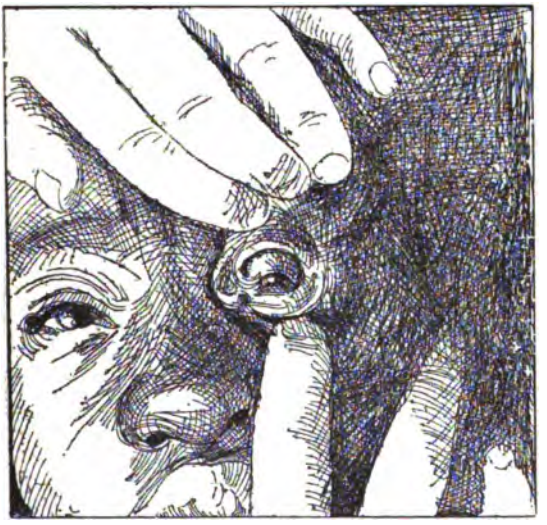
REMARKS.—From position of large cyst and fetus it must have escaped from right tube by extraperitoneal rupture and developed to near eight months of gestation before its death, about the first of August, 1893. The smaller fetus was the result of pregnancy occurring in left tube, giving indications of a miscarriage in January, 1890, nearly two years previous to last impregnation. The first tubal pregnancy in left side also ruptured extraperitoneally and died later. I present this brief report and history of this case with specimens in order to place on record a unique unusual case. So far as I know there are but few similar cases on record, and they principally of ancient origin.

I have a case on hand now which I am watching with considerable interest, that presents a strong probability of contemporaneous uterine and extrauterine pregnancy.

CONJUNCTIVAL CYST IN EACH EYE.

BY W. L. BULLARD, M.D., COLUMBUS.

Mattie H., colored, age sixteen, consulted me some few weeks ago in regard to her eyes. The upper lids were drooped, and looked as though she had trachoma or rather some form of ptosis. On everting the lids I readily saw



what the trouble was—a cystic growth as partially shown in the accompanying cut. The cyst extended around or encircled the whole fold of transition of both the upper and lower lids, and was as large as one's little finger, transparent, and reminding you of the ileum, and linked like a sausage. This patient claimed to have had this trouble

for five years, though had never given her any inconvenience until about two years ago, since which time however, bright sunlight, wind, etc., caused the eyes to weep, and the weight of the tumor caused ptosis. Both eyes were affected, though the left had the larger cyst. I operated in the usual way, only I split or divided the conjunctiva the whole length of the tumor, then wiped it out with normal liquid ergot, leaving Nature—an important auxiliary to all remedies—to complete the cure, which she did in a very few days, with the happiest result. These troubles, as a rule, are readily cured, and I report this case for its rarity. Small conjunctival cysts are occasionally seen, but bilateral cases similar to this kind are not at all common in my experience, and I have seen many hospital patients, and not a few private ones.

THE TAMPON IN GYNECOLOGY.

BY JAMES C. AVARY, M.D., ATLANTA.

The tampon, as the history of gynecology and surgery for the past two decades abundantly proves, is as varied in its *modus operandi* of working good, as the minds of the different gentlemen who have essayed to explain its use.

To show in a convenient way my ideas of the value of the tampon, I will divide the indications for its use into two general heads, considering the character of tampons, as they are possessed of two essentially different physical properties.

The tampon *per se* is, in the first place, either a mechanical therapeutic agent, or the vehicle for some medicament.

Expressed in a broad way, the indication for its use is either the need of a support, or of an adjuster of the relations of different organs of the pelvis, and in these ways both a direct and indirect agent, without reference to its function as a vehicle.

I must confess that, beginning the active practice of medicine after a tutelage under the late Dr. Taliaferro, I had a very exalted opinion of the efficacy of the tampon in all conditions of pelvic trouble, and this early impression may in some measure account for my still fixed belief in its profitable use under proper conditions. However, the opinion of many is that its field of usefulness is limited in the extreme, and not a few vouchsafe to say that more harm than good has been accomplished by it.

No agent, direct or indirect, has been so fruitful for good

in my hands as the tampon, used with the view of combining its properties as a mechanical support, or adjuster of relations, with that of vehicle for local absorbents. Whether the conditions be those of acute inflammation of the uterus only, or of acute inflammation extending to the uterine appendages, or whether it be a chronic inflammation of the whole pelvic system with its accompanying condition of false attachments and deposits resulting from the inflammatory process, the conclusion is that positive and desirable changes have been uniformly wrought.

The universal and indiscriminate employment of the tampon in an irregular and indefinite shape, and of any material that might be at hand, or that had been recommended by any more or less prominent writer or lecturer on the subject, has, I am glad to say, given place to a more rational use of this therapy, as more independent thought and individual investigation has been devoted to the subject.

The use of the tampon for accidental or accompanying hemorrhage in locally destructive diseases can be better left to the discussions of the Society on the treatment of that branch of the subject as involved in the general principles and special applications of surgery. Suffice it to say, that the gynecologist has not left untried this direct method of staunching the unnatural flow of blood.

Perhaps no one general principle in the therapeutics of surgery is better attested than that pressure direct upon a benign tumor serves to aid in its resolution; and thus it is that the tampon has found its justification within the cavity of the uterus in an effort of the conservative gynecologist who prefers this method of getting rid of interstitial fibroids to the more direct perhaps, but also more heroic way of extirpation of the ovaries. Again, in those cases of dysmenorrhea where the hypertrophied mucous membrane is decided to be the cause of offense, the tampon has been of service on that self-same principle, at the same

time being the medium of such local medications as were indicated by the conditions, strips of gauze, etc., of suitable width being the preferred material for this class of work.

The correction of the abuse of the ingenious and misleading pessary owes more to the substitution of the tampon than to any other cause. Not but what I believe there is a field of usefulness for this time-honored "crutch," and I think reverently of this multiform relief force of the pioneer period of gynecology, for it certainly did fill, in the past, as it does now, a place which nothing else could or can supply. The very fact that in many cases immediate relief was afforded by the introduction of a pessary justified its use. Without our present knowledge of the way in which this indiscriminate use of pessaries resulted, which knowledge has led to the devising of other and superior methods of meeting immediate indications in most conditions, and without these better ways to the discovery and application of which the pessary led us, I am convinced that to-day the pessary would still hold its sway.

When used for the double purpose of a support and vehicle of medicament, the properties essential to a tampon are lightness, elasticity and absorbent power. Cotton, raw and prepared, and wool have for a long time been universally used. Recently I had my mind directed to a material which I think promises to be very available for this purpose. Its superior elasticity and lightness, with the very important quality of preserving that elasticity after being placed *in situ*, prompts me to call the attention of the Society to it. Its expense, as compared with that of other mediums, might also be an item in its favor. As you see, this material which I hold in my hand is such hair as upholsterers of furniture and carriage-makers use. If my premises in regard to the desirability of lightness and elasticity are correct, the superior claims of this material over those of wool or cotton are at once demonstrated.

A pound of this material represents a considerable bulk. A pound costs forty cents.

The manner of applying tampons, the shaping of them, etc., are matters of individual judgment and preference. While this material seems to be, and is, harsh, a small envelope formed by wrapping a small quantity of cotton around the tampon after it is shaped, removes this objection, and gives as smooth and soft a support as if the whole were modeled of cotton. The like objection has been urged against wool, as well as its failure to retain medication as long as desirable. For some time I have used cotton on the outside of wool, both for protection of the mucous membrane and for keeping the medicine in application to it for a longer time. Glycerine, on account of its affinity for water is the generally preferred menstruum for holding such other remedies as we may select to deplete the uterus. It is better than boroglyceride, and much lesss expensive.

My method of preparing this hair is as follows: It is subjected for a few moments to boiling soapsuds, rinsed, and then passed through solutions severally of permanganate of potash, oxalic acid, bichloride, and finally several rinsing waters. It is then carded and ready for use.

DISCUSSION ON DR. AVARY'S PAPER.

Dr. Gilmer of Macon: While agreeing with the Doctor that the material which he has presented is very elastic and likely to prove a useful tampon, I do not think his allusion to the pessary a fair statement of its use or action. In posterior displacements, where the intrument does the most good, it carries the cervix backward and in this way changes the direction of the action of the intra-abdominal pressure.

Dr. Walter A. Crow, of Atlanta: The questions of tampons and their uses, which are so universally used in

the local treatment of diseases of the womb, is an interesting one, and any material which has the requisites that Dr. Avary claims is worthy of our consideration. The most important thing is that this material can be rendered perfectly aseptic. The next point is its lightness, and next and not least, is the absorbable power of the material.

In the use of pessaries in contradistinction to tampons, the same rule applies to both. Both pessaries and tampons have their place in gynecological treatment. A pessary that is not suitable and properly fitted to the case in hand will invariably do harm. A tampon that pushes the cervix high up into the hollow of the sacrum will do equally as much harm. Both must be placed properly and by one who understands the manipulation. The use of pessaries to support the uterus or of tampons saturated with boroglyceride, acting both as a support and as a means of applying a local medicament, we all know, constitutes a large percentage of gynecological treatment. I merely rise to say that the material for tampons that has been presented is certainly worthy of our looking into it. It subserves our purpose apparently much better than cotton. The only question that arose in my mind when we considered the material at a meeting of the Atlanta Obstetrical Society was whether or not the irritating effects of the hair would remain, or whether it could be rendered perfectly aseptic. These two things being satisfactorily cleared up, it will certainly in a great measure displace the materials we now use for tampons.

Dr. Avary: I want to be understood as being one of those who believe that pessaries can never be supplanted. They have a place in gynecology, and they will be with us always. We who have to deal with this class of cases, all know that they must be put on their feet to do their duty. We know the immediate good that pessaries will do. I would not undertake to practice or to conduct an

outdoor clinic unless I had at my command a great variety of pessaries of different sizes and shapes, otherwise I would be at a loss to know what to do. I not infrequently, however, use a tampon and a pessary in the same patient, using my tampon as a vehicle for carrying and holding in position my boroglyceride, saturated with some other alterative and depleting agent. As has been suggested, there are a thousand and one modifications that must be made, and I try to mould the shape and fit the peculiarities of the case, getting such pessaries of a size and length as will allow me to select the proper size and then mould it according to the individual case. By using a tampon of this elastic material, covered over with cotton, made perfectly smooth and in that way non-irritating and yet absorbent, I can use it as a kind of reservoir. I can let my patient use hot water, using a pessary to hold it in position and keeping the tampon clean, something that cannot be done with any other tampon that I know of. No other material will allow the patient to do this. This material, on account of its elasticity and lightness, even when saturated with water, allows of absorption, acting as a reservoir, a quality that no other material has that has been recommended. It can be made into any shape and will retain it.

RARE CASES IN OBSTETRICS.

BY WILLIAM F. HOLT, M.D., MACON.

The following cases are to my mind so unusual in the practice of the general practitioner that it occurred to me to present them at this meeting for comment and discussion. I shall give a brief and concise history of each case, with the treatment adopted.

CASE 1.—Mrs. A. B., Jewess, mother of six children, good family history, offspring all healthy, previous labors normal in every respect; consulted me January 11, 1892, stating that she quickened at the usual time, about the expiration of the fourth month; that the breast enlarged, and that there was a gradual increase in size, but that she had not felt the motion of the fetus for several days. Upon examination I could map out the uterus, and expressed the opinion that the fetus was blighted; that the placenta was retained probably vitalized; that it would sooner or later be thrown off. She was incredulous, but accepted my diagnosis. Her health continued good; was able to discharge her household duties as usual. Heard nothing further from her until I was summoned to see her, March 23d, at 11 P. M. She then informed me that she had had pains since early morning, recurring regularly and attended with slight sanguineous discharges; that they had increased in severity and occurred now every five minutes. Upon examination, found the os fully dilated, and in a short time the fetus was expelled dry and shrivelled, corresponding to what we would expect at four months. Finding it impossible to ex-

press or remove the placenta, and the hemorrhage being considerable, I tamponed through a cylindrical speculum with carbolized cotton, ordered thirty minims of fluid extract ergot given every three hours, and morphine if unable to sleep. Upon calling to see her the following morning, I found that the pains had continued through the night, that she had taken the opiate, causing her to sleep fairly well, but had no further hemorrhage. Upon removing the tampon I found the placenta (four months) detached and in vagina. Gave her a douche of carbolic acid and water, ʒ i to O i, and placed her in bed; repeated the douche for three consecutive mornings; she had no increase of temperature; slight lochial discharge; her recovery rapid and complete.

CASE 2.—Mrs. B. C., age thirty-one, neurotic temperament; mother of two children, the youngest eight years; has not menstruated since the birth of last child; had a leucorrheal discharge in August last. Saw her in December, when she told me she was pregnant. Upon examination I could hear distinctly the fetal heart and feel the impulse of child through the abdominal walls. She was delivered of a female infant February 28, 1894, small but perfect in form; nothing abnormal in her labor; lying-in was attended with no unpleasant symptom; lochia continued for four weeks; no secretion of milk.

CASE 3.—Mrs. C. D., age thirty-one, good family history and has always enjoyed excellent health; has two bright and vigorous children, the youngest four and one-half years of age. Menstruated regularly up to March 27, 1893, continued the usual time, five days; no further menstruation until July 23, 1893, when it was very profuse. Treated her for threatened miscarriage: opiates, viburn. prunifolii, rest in bed, etc. Was confined to her room two weeks; she was then able to resume her household duties, reported at my office at the expiration of a month, and occasionally

afterwards, stating that she had not quickened and that there was no increase in her size, breast full and very tender. I gave her the opinion that the ovum was blighted and the placenta would sooner or later be thrown off. She had a slight lencorrheal discharge in January, 1894. On the 28th of March she was seized with pains at 4 A. M., with slight hemorrhage, the pains increasing in severity. I was summoned at 9 A. M., found the os fully dilated and the placental mass distinctly felt. As the pains were then of sufficient force, I thought to expel the placenta; I awaited further result; at 12 M. the pains ceased, when I gave her ʒ i fluid extract ergot, which had the effect of increasing them, and at 3:30 P. M. the placental mass was expelled entire, twelve months and one day from the date of last menstruation, the membranes very thick and tough. Gave injection bichloride solution 1 to 2000 for three consecutive mornings. Nothing abnormal occurred, and she rapidly convalèsced.

CASE 4.—Mrs. H. G., aged thirty-six, has always enjoyed excellent health; four children, all strong and healthy; her previous labors unattended with difficulty, normal in every respect. Consulted me in latter part of November, 1892; had missed catamenia for two months, felt unusually languid, was compelled to remain in bed, as when she attempted to sit up she felt "dizzy and faint"; had frequent and annoying pains in the lumbar region. Made an instrumental examination. Uterus in normal position; nothing revealed which could account for the symptoms which she had detailed. She was confined to her room most of the time, occasionally sitting up a few hours. On January 1, 1893, at 3 P. M., I was hastily summoned; was informed that she raised up in bed suddenly and lifted her youngest child, whom she thought was in convulsions, after which she was having labor pains at regular intervals,

accompanied with slight hemorrhage, which continued increasing in severity until the fetus was expelled, completely enveloped in the membranes. Upon opening the sac and examining the fetus I concluded it was eight weeks. I congratulated myself upon the happy termination of it. Patient was bright and cheerful. I remained in the room, as is my invariable custom, for one hour, and directed the nurse to thoroughly cleanse the external genitals with a warm solution of bichloride 1 to 2000. After seeing my patient placed comfortably in bed, I was preparing to leave the house, when she informed me that she was very faint. Upon going to the bed I found she was bleeding profusely, lowered her head, introduced ice and kneaded the womb, gave her ʒi Squibbs' fluid extract of ergot; the hemorrhage continuing, and being unable to express or remove the placenta, and her condition so feeble that I thought further efforts would be hazardous, I introduced a cylindrical speculum and tamponed her with carbolized cotton; her condition at this time was so critical that Dr. C. H. Hall was summoned to see her. Upon his arrival she had rallied, and after consultation we decided to continue the ergot through the night, thirty minims every three hours, and morphine if restless. The following morning I removed the tampon, but was unable to remove the placenta either with forceps or my fingers; gave her a sublimate solution 1 to 2000, and reapplied the tampon. For two consecutive mornings the same process was repeated with like result. After further consultation we determined that it would be hazardous in her debilitated condition to curette the womb, but decided to keep her in bed and give her iron and a liberal diet and build up her system. After the lapse of six weeks she had improved sufficiently to be placed under chloroform, when Dr. W. B. Gilmer curetted the womb, assisted by Dr. Hall and myself, removing a large piece of placenta which was vitalized and attached to the fundus.

He then packed the womb with iodoform gauze, allowed it to remain four days, removing a small portion each day. She had no further hemorrhage and continued to improve. After the expulsion of the fetus completely enveloped in the membranes, I naturally concluded that nothing further remained, and had I left my patient she would probably have lost her life.

REMOVAL OF SEPTIC OR INFECTIOUS MATTER WITH A VIEW OF RELIEVING PHLEGMASIA ALBA DOLENS.

BY GEO. H. NOBLE, M.D., ATLANTA.

In several instances I noticed the removal of pus-tubes was followed by marked improvement of phlegmasia alba dolens when coexistent, and believing that every case of phlegmasia has a septic origin, the conclusion was reached that toxic materials producing the disease should be removed. Carrying this idea into effect as far as practicable, results were attained that deserve some notice, and that they may arrest your attention, I make this report, together with a few remarks relative to sepsis as a causative factor.

It is a common observation that sepsis is a constant attendant of the disease, and it, the latter, presents no symptoms that cannot reasonably be attributed to the absorption of poisonous ptomaines.

In the light of recent observations non-puerperal phlebitis and thrombosis are identical with that of puerperal origin. Again, phlegmasia may occur in the non-puerperal state, or the male. There must, therefore, be a common cause other than the puerperium.

Thrombosis is always preceded by phlebitis (Senn). If septic the clot will have a great tendency to extend until overcome by successful phagocytosis. If not septic the inflammation will be limited, the clot small and less inclined to grow into the larger vessels.

I am inclined to believe, however, that phlebitis is always septic in origin, and, if I understand the recent teaching of Boucard, find support in this idea. The mild cases, supposed to be non-infectious, are *feebly* septic and quickly overcome by the phagocytic elements of the blood. This would prove an easy solution of the problem—the occurrence of phlegmasia under apparently different conditions.

This common cause is preceded by conditions favoring thrombosis and sepsis, such as anemia, hemorrhage, febrile conditions and consequent increase in fibrin and other factors predisposing to unsuccessful phagocytosis.

The primary lesoin is usually in the genital canal, though it is confined to no particular tissue; it may occur in the bony structure, as in osteomalacia, or even in the mammary glands; an instance of which the writer saw was due to a crutch wound.

There is no specific germ. It may be putrefactive bacteria with the absorption of preformed ptomaines, followed by spirillæ, streptococcus pyogenes or other cocci that multiply and form poisonous ptomaines after penetrating the tissues, the streptococcus pyogenes being perhaps the most common, and usually associated with other vegetable ferments.

Extension to the affected limb may take place by either of two ways, or by both. Using the streptococci pyogenes as representative cocci, we trace them from the infection antrum, the clot in the ends of the uterine sinuses, through which they spread most rapidly in the axial direction of the vein until they pass beyond the confines of the clot and enter the blood in the vessels. There a battle takes place between them and the phagocytes, resulting in coagulation of the latter, temporarily checking the advance of the cocci. But the vitality of the subject being impaired or the phagocytes outnumbered, this barrier is again pene-

trated and the battle renewed. This is repeated from time to time with or without the chill and fever, the phagocytes gradually falling back in deference to the periodical extension of the clot until it reaches a vein of large cabliber, where it may cease to grow. Here the effect of the phagocytes is evident, being sufficiently numerous and powerful to successfully destroy or carry away the invading army of germs.

If the thrombus continues to grow after reaching a large vein, it mechanically obstructs the vessel and lessens the rapidity of the blood-current, rendering the conditions more favorable for its extension. When septic, the rapidity of its growth is very much increased.

Extension to the affected limb by the other avenue, the lymphatics, is similarly progressive—that is, there are frequent attempts at arrest of the poisonous stream by coagulation successively in a number of glands in a chain. This continues until a number of lymph-ducts are obstructed and a condition developed that has been called "lymphatic œdema."

The walls of a vein at a point distant from the infection antrum may become inflamed and softened by a septic lympth-gland in close proximity. The intima is roughened, and over this surface the third corpuscles lay the foundation upon which the white corpuscles build the thrombus. This at first acts as a barrier to shut off the cocci as they penetrate the inflamed vein. If phagocytosis is successful the clot is limited and is known as an aseptic or white clot. But if the bacteria penetrate this barrier they enter the blood where coagulation is rapid upon the surface of the thrombus, and layer after layer is added until the vessel is occluded. This constitutes the septic or red clot.

Phlegmasia in a limited way occurs more frequently in the true pelvis than we are willing to admit. It may be

precipitated by traumatisms surgical or otherwise, and pass unnoticed for the want of external or leg symptoms.

Recently a Philadelphia surgeon published an article in which he gives details of a number of cases of phlegmasia following cœliotomy for pus-tubes, ovaries, etc., and one after a case of hysterorraphy. He stated there was nothing septic about them, no rise in temperature, and that they all made good recoveries, but he is unable to explain the cause.

The conditions favoring septic phlebitis were present in those cases of pus accumulation before the operations were done, and as it is a well known fact that the cocci penetrate the effused or coagulated lymph and softened tissues surrounding such masses, numerous colonies must remain after completing the operation, as it is often impossible to remove every vestige of the infected tissues. Thus the operation diminishes the quantity or intensity of infectious matters, but the remaining germs are often sufficient to infect a clot in the open end of a lacerated vein, which may extend to the vessels supplying the leg after the subsidence of the fever attending the operation. Under such circumstances the fever must be more or less septic, but quickly overcome by the phagocytic elements of the tissues.

Again, fever is not an essentially constant symptom of sepsis. Low temperature in purulent peritonitis and the absence of increased temperature in large pelvic abscesses occasionally demonstrate the fact.

It is not sound logic to urge the idea of a non-septic origin in these cases, because there was no continued elevation in temperature and an absence of chills.

Nor is it safe to say that the case of hysterorraphy was free from sepsis, as no man's ligature is infallible, and as it is occasionally observed that an unclean ligature may remain incased in exudate for a limited period without the slightest signs of sepsis, to eventually suppurate and es-

cape. If the abdominal cavity will tolerate this, why may we not have septic matter introduced in a simple hysterorraphy resulting in fever that may go hand in hand with the fever of fermentation following the operation, subsiding as it does, or be mistaken for it? Again, so many cases so close together is another link in the chain of suspicion that casts a shadow upon the purity of the ligatures.

The cases that first arrested my attention regarding the improvement in phlegmasia alba dolens after removing septic or infectious matter from the pelvis, were three in number—two double pyosalpinx, one of which had an abscess of the left ovary of about two ounces in capacity; the third had a pus-tube on the left side. In each case the phlegmasia was in the left leg.

Though cœliotomy was done primarily for the removal of diseased organs, the beneficial effect upon the swelled leg was so apparent that it could not have escaped the most careless observer; so it occurred to me that in the future it would be desirable to remove the source of infection or septic accumulation when accessible.

I.—On the 5th day of May, 1892, I dilated and curetted the womb of Mrs. J. P. A. for hypertrophied and softened mucosa. The discharges were copious, muco-purulent and offensive, with some admixture of blood. She had been confined thirty-one days previously, chill on the third day, rapid heart action, pain in the pelvis, distention of the abdomen, cessation of lochia, etc. Her physician ascribed the disturbance to "milk fever."

In the second week phlegmasia developed in the left leg. Pain intense, swelling marked, lymphatics tender, femoral vein distended and sensitive to the touch; temperature 105½°; pulse 130; very anemic, and great loss of strength. Reduction in temperature attended the operation and an improvement was not slow to follow. The third day the limb had lost some of the hard brawny feeling, and two

days later the swelling had perceptibly diminished and the soreness was greatly relieved. The improvement was steady, patient being dismissed fourteen days later.

II.—August 15, 1892, Mrs. P. E. N., phlegmasia of the left leg; was confined twenty-three days before. She gave no history of sepsis except that she claimed to have had some fever when the milk came. The disease developed in the second week. Pain severe, swelling moderate, but hard and brawny. The vaginal discharges were free but foul smelling, and consisted of pus, serum and mucus. The base of the broad ligaments thickened, cervix uteri recently lacerated upon the left side; temperature $102\frac{1}{5}°$; pulse 120, compressible; surface pale; said she had hemorrhage in her confinement. The curette brought away some placental débris and shreds of membrane. She improved rapidly and was dismissed on the sixteenth day.

III.—Mrs. G. C., admitted to the Grady Hospital June 19, 1893, a subject of septo-sapremia, following the delivery of a dead fetus on May 27th. Secretions profuse, purulent and exceedingly offensive. A distended pus-tube (left) discharging through the uterus; perineum lacerated and in a state of ulceration; mucous membrane very much hypertrophied and softened; uterus fatty and very fragile; leg swelled to more than twice the normal size. Intense pain and redness on inner side of left limb from Poupart's ligament to the foot; very pale and anemic, and slightly emaciated; temperature $102\frac{3}{5}°$; pulse 84. Was put on tonic and stimulant treatment, with phenacetine to control the fever, and antiseptic douches.

In curetting on July 5th the uterus was found very soft, especially on the left side, where a spot gave to the instrument the sensation of having penetrated a mural abscess. Great care was necessary to avoid puncturing the uterine walls. A quantity of pus and fatty débris was removed; the temperature range was from 99° to 101° for the first

six days, but afterwards normal. The fever decreased with the discharges, and the patient was convalescent and dismissed free of the phlegmasia in twenty-eight days after the curetting. Perhaps removal of the diseased appendages or hysterectomy would have been the ideal operation, but as it was, the safer course gave satisfaction.

Do not infer from the above that I advocate operative interference in every case of phlegmasia, for there are numbers that will recover if left to themselves; again it is in a limited proportion of cases only that the septic matter is accessible to the surgeon's instruments. But where a pus accumulation can be removed from the pelvis, or placental débris and other septic matter can be scraped from the uterus, it is but just and right that it be done to lessen the dosage of infection and encourage successful phagocytosis.

NASAL SPRAYS—WHAT APPARATUS TO USE.

BY GEORGE BROWN, M.D., ATLANTA.

I wish to present to the general practitioner, who, in the hurry of a practice that does not enable him to keep as well posted on such matters as he would probably wish to, a few of the most modern and serviceable sprays.

For spraying oils, where one wishes to use them warmed, unquestionably the best spray is the one shown in the cut below, DeVilbiss, No. 9. I prefer this pattern to his others. Both of his makes can be used for nose, throat and post-nasal space by the patients themselves, with a little practice. It is all metal, easily cleaned and will last a lifetime.

No. 1. DeVilbiss Spray, No. 9.

The Davidson, No. 159, is probably the next best and strongest made spray for throwing oils. This has extra tips for the throat and is very strong, and has the advantage of throwing an almost continuous spray.

This firm also makes a nasal spray, No. 548, that is very compact, and can easily be carried in a very small space,

No. 2. THE DAVIDSON RUBBER COMPANY SPRAY, No. 159.

making it very convenient for traveling men, etc. The top can be taken off and the tubes easily cleaned.

No. 3. THE DAVIDSON ATOMIZER, No. 548.

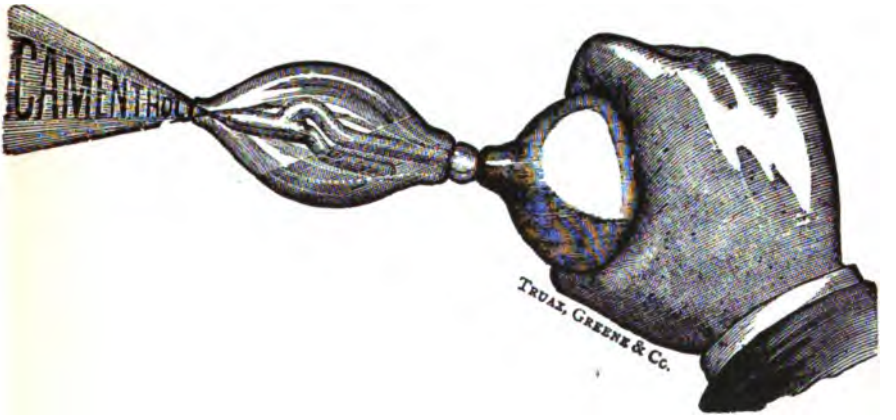
Messrs. Codman & Shurtleff make one very similar to the above, of which an immense number have been sold. Either of these are very good for nasal sprays, but cannot be of service to a great many cases where there is a diseased condition of the post-nasal space. In these cases it is better to use an apparatus that can be introduced behind the soft palate.

No. 4. CODMAN & SHURTLEFF ATOMIZER.

The same firm make the apparatus in the cut below. This is somewhat similar to the Davidson, No. 159, and can be used for both throat and post-nasal space, as well as for the nose. This throws an almost continuous spray, and is an instrument that will give satisfaction.

NO. 5. CODMAN & SHURTLEFF NOSE AND THROAT ATOMIZER.

Messrs. Charles Truax, Green & Company make the instrument shown below. They also make a preparation called "Camenthol," which they advertise in connection with the instrument, though the instrument will spray any of the



NO. 6. THE TRUAX-GREEN ATOMIZER.

oily preparations very nicely. It is most useful when the trouble is confined to the nose.

E. B. Meyrowitz makes two sizes of Dr. Leffert's sprays, which are very fine for use in the nose and throat. They come nearer throwing a continuous spray than any hand spray I have ever seen.

The S. H. Wentmore Company make two sizes of the "Century" sprays. They are No. 5 and No. 15. I have prescribed quite a lot of each, and they give good satisfaction.

For inhalations I use three kinds of sprays. Unquestionably the best is the apparatus of Dr. H. S. Dunlap, of Battle Creek, Mich., which is called "The Globe Nebulizer." I do not think this instrument can be improved upon, especially when used as I use it in my office, connected to a compressed air apparatus carrying twenty-five pounds pressure. I am getting better results from the use of this instrument in middle ear troubles than anything I have ever used.

No. 7. THE GLOBE ATOMIZER.

E. B. Meyrowitz makes the American Nebulizer, which is a cheaper apparatus than the above, but is very good for patients' home use. I am prescribing these with good results. The fluid is broken into very fine particles and can be inhaled with absolute ease.

Messrs. Codman & Shurtleff also make a splendid instrument for the same purpose. It is one of the best I know of, and I have my druggist to keep it in stock for me also. It is of glass and will last a lifetime, and is also a cheaper instrument than the globe.

NO. 8. THE AMERICAN NEBULIZER.

For spraying peroxide of hydrogen or pyrozone, Messrs. McKesson & Robbins make the prettiest and most useful of sprays. No one who pretends to treat any trouble of the upper air passages can afford to be without their set of sprays. While not a spray, I deem it my duty to call your attention to their "Pulverflator" for applying the stearate of zinc preparations to the upper air passages. With this instrument and a full line of their preparations of the stearates and combinations, much relief can be afforded cases that cannot be reached in any other way.

The question of what to use in the different diseased conditions of the nasal passages is too broad to be touched upon; and I can only say that there is no preparation that one would wish to use in the nose that cannot be applied by some one of the instruments described above.

CONSTITUTION AND BY-LAWS

OF THE

MEDICAL ASSOCIATION OF GEORGIA.

CONSTITUTION.

(ADOPTED 1873.)

ARTICLE I.

NAME.

The name and style of this Association shall be "THE MEDICAL ASSOCIATION OF GEORGIA."

ARTICLE II.

OBJECTS.

SECTION 1. The object of this Association shall be to organize the medical profession of the State in the most efficient manner possible; to encourage a high standard of professional qualifications and ethics, and to promote professional brotherhood.

ARTICLE III.

MEMBERS.

SECTION 1. There shall be only one class of members in this Association. Any regularly educated white physician, who resides within the limits of this State, who is a graduate of a regular Medical College in good standing, and who adopts and conforms to the Code of Ethics of the American Medical Association, shall be eligible to membership in this body.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers of the Medical Association of the State of Georgia shall be as follows: 1st, One President; 2d, Two Vice-Presidents; 3d, One Secretary; 4th, One Treasurer; 5th, Five Censors.

SEC. 2. The President shall be elected for one year; the Vice-Presidents for one year; the Secretary for five years; the Treasurer for five years—but every officer shall continue in office until his successor is elected and installed in office.

SEC. 3. The Board of Censors shall be elected at the present session by the Association—one for a period of five years, one for four years, one for three years, one for two years, one for one year; and annually hereafter the vacancy occurring in the Board of Censors shall be filled by election.

ARTICLE V.

PRESIDENT.

SECTION 1. The President shall be the chief executive officer of the Association. He shall preside at all the meetings of the body, preserve order, and give the casting vote when necessary, and perform such other duties as parliamentary usage imposes on presiding officers.

SEC. 2. He shall prepare and deliver, at the opening of each annual session, an address on some subject connected with the interests and objects of this Association.

SEC. 3. He shall appoint annually the requisite number of delegates to the American Medical Association, and to such other scientific bodies as it may be expedient to have this Association represented in.

SEC. 4. He shall appoint an orator, whose duty it shall be to prepare and deliver a public address on some subject

connected with medicine, or the medical profession, at the next annual meeting after his appointment.

SEC. 5. He shall, in the intervals between the annual sessions, direct and control the general policy and business of the Association, but always with careful attention to the precedents and customary usage of the Association and to its constitutional provisions.

ARTICLE VI.

VICE-PRESIDENTS.

SECTION 1. Vice-Presidents, in their order, shall, in case of the absence or the death of the President, discharge all the duties belonging to the presidential office.

ARTICLE VII.

SECRETARY.

SECTION 1. The Secretary shall have charge of all the books, papers and records of the Association, except those belonging to the office of Treasurer.

SEC. 2. He shall record the minutes of the Association at all its meetings.

SEC. 3. He shall conduct the correspondence of the Association under the direction of the President, and shall be Chairman of the Publishing Committee.

SEC. 4. He shall keep the roll of the members of this body who have retained their membership by compliance with the provisions of this Constitution, and also the names of those who have forfeited membership, together with the cause of such forfeiture.

SEC. 5. In the absence of the Treasurer he shall collect the usual dues of the members in attendance at the regular sessions.

SEC. 6. The necessary expense incurred by the Secretary, in attending the annual sessions, shall be defrayed out of the funds of the Association.

ARTICLE VIII.

TREASURER.

SECTION 1. The Treasurer shall collect the annual dues and have custody of all the moneys belonging to the Association, and shall respond to the calls of the Secretary by order of the President, as far as he may have funds in his possession.

SEC. 2. He shall make annual reports of the financial condition of the Association, and the several amounts received during the year, and from whom; the several amounts due by the Association—if any—to whom, and on what account; the several amounts due to the Association —if any—by whom, and on what account.

SEC. 3. The necessary expense incurred by the Treasurer, in attending the annual sessions, shall be paid out of the funds of the Association.

ARTICLE IX.

CENSORS.

SECTION 1. The Board of Censors shall hold annual meetings, concurrently with the annual sessions of the Association, to whom shall be referred all applications for membership, with vouchers from two members; and in such case their decision shall be reported to the body for action. Three of their number shall constitute a quorum, and the Chairman and Secretary shall be designated by the President.

SEC. 2. They shall take cognizance of all offences against the Association or its Code of Ethics, and shall be authorized to strike from the list of membership all violators of its regulations, and shall report the names of the individuals, and the offence from which action has been taken, immediately to the Association, at which time, or at

the next succeeding meeting, all such individuals may have the right to appeal to that body.

SEC. 3. In the event of a failure of a quorum of the Board of Censors to attend at any annual meeting, it shall be the duty of the President to supply the vacancy by a temporary appointment.

ARTICLE X.

FINANCES.

SECTION 1. Every member of the Association shall pay annually into the Treasury such sum as the Association may determine, which amount, it is expected, will be paid during the session of the body.

ARTICLE XI.

CONSTITUTION.

SECTION 1. The Constitution shall take immediate effect from its adoption.

SEC. 2. The By-Laws now in operation, and Order of Business, are adopted, so far as they agree with the new Constitution.

ARTICLE XII.

ANNUAL MEETING.

SECTION 1. The annual meetings shall take place on the third Wednesday in April, and at such place as shall be designated by a majority of the Association.

ARTICLE XIII.

AMENDMENTS.

SECTION 1. Any amendment that may be offered to the Constitution shall lie over until the next annual meeting; and for its adoption at such meeting shall require a two-thirds' vote of all present and voting.

BY-LAWS.

(ADOPTED 1875.)

ORDER OF BUSINESS.

The order of business of this body, unless ordered by a two-thirds' vote of the members, shall be as follows:

1. Calling the Association to order by the President, or in case of his absence, by one of the Vice-Presidents.
2. Report of Committee of Arrangements.
3. President's Address.
4. Reading notes from absentees.
5. Election of members.
6. Reports of Special Committees.
7. Report of Committee on Publication.
8. Report of Committee on Necrology.
9. Report of Committee on Programme.
10. Voluntary Communications. [To be read by title and held subject to call of the Association.]
11. Selection of place for next annual meeting.
12. Unfinished business.
13. New business.
14. Installation of new officers.

Resolved, That the officers of the Association be elected by ballot, without a nomination, at eleven o'clock on the morning of the last day of the Association, and if there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on second ballot, the two names receiving the highest number of ballots shall be voted on until an election is had.

STANDING COMMITTEES.

The Committee of Arrangements shall consist of five members who reside at the place selected for the ensuing meeting. It shall be their duty to provide suitable accommodations for the meetings of the Association, and to superintend the registration of members in attendance.

The Committee on Publication shall consist of four members in addition to the Secretary, who is Chairman *ex officio*. They shall provide for the publication of the minutes of the session, together with such papers as are deemed worthy. They shall also append to each volume of Transactions a copy of the Constitution and By-Laws of the Association, Roll of Membership, and Code of Ethics of the American Medical Association.

The Committee on Necrology shall consist of five members, whose duty it shall be to procure memorials of deceased members, and present them for publication in the Transactions.

ASSESSMENTS.

Each mumber shall pay annually to the Association such sums as the Association may determine.

OFFICERS—TIME OF ASSUMING THEIR DUTIES.

The Secretary and Treasurer shall enter upon the duties pertaining to their office at the time of their election; the President, Vice-Presidents and Censors, at the commencement of the annual meeting succeeding their election.

AMENDMENTS.

I.

APPLICANTS FOR MEMBERSHIP.

The names of all applicants for membership shall first be presented to the Association in a body, and then referred to the Board of Censors. [See, also, Duties of Censors—Constitution, Article IX., Section 1.]

II.

INITIATION FEE.

An initiation fee of FIVE DOLLARS shall be required of every new member hereinafter elected to the Association; which fee must accompany the application for membership.

III.

ANNUAL ASSESSMENTS.

The annual assessment of every member of the Association shall be THREE DOLLARS.

IV.

MEMBERS IN ARREARS.

The name of any member who shall fail for two consecutive years to pay the annual assessment shall be dropped from the roll of membership, the Treasurer notifying such member of the state of his account.

V.

TREASURER'S CALL FOR DUES.

The Treasurer shall, immediately after the meeting of the Association, issue a call for the dues of absent members,

by postal card, impressing upon them the need of prompt payment of the small assessment herein provided, by every member of the Association, and notifying them of the constitutional provision requiring the names of delinquents to be stricken from the roll of membership by the Secretary.

VI.

LIFE-MEMBERSHIP.

The assessment for life-membership shall be THIRTY dollars, exempting from annual dues, the sum so received to be invested and the interest used to pay annual dues of said life-member. A member may hold as many life-memberships as he desires, and shall be entitled to one vote for each.

VII.

PAPERS AND PUBLICATIONS.

1. No paper shall be read before this Association, by title, or otherwise, until a complete copy of such paper shall have been placed in the hands of the Secretary for publication in the Transactions. This rule shall not prevent the publication of such paper in any medical journal, at any time.

2. No article shall be published in the Transactions until it shall have been recommended by the Committee on Publication.

3. Repeals all conflicting laws.

VIII.

AMENDMENTS.

Any change in these By-Laws can only be made by a vote of two-thirds of all the members present.

The Secretary desires to call attention to the following resolution which was adopted by the Association, in Augusta,

in 1886, and, while it was not offered as an amendment to the By-Laws, yet, if carried out, it would operate in that way. The resolution is as follows:

"*Resolved*, That the second day of the next and each subsequent session of this Association be set apart for omnibus discussion."

CODE OF MEDICAL ETHICS.

CHAPTER I.

OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS, AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.

DUTIES OF PHYSICIANS TO THEIR PATIENTS.

§ 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. Those obligations are the more deep and enduring, because there is no tribunal, other than his own conscience, to adjudge penalties for carelessness or neglect. Physicians should, therefore, minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health, and the lives of those committed to their charge depend on their skill, attention and fidelity. They should study, also, in their deportment, so to unite *tenderness* with *firmness*, and *condescension* with *authority*, as to inspire the minds of their patients with gratitude, respect and confidence.

§ 2. Every case committed to the charge of a physician should be treated with attention, steadiness, and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed, and the familiar and confidential intercourse to which physicians are admitted in their professional visits

should be used with discretion, and with the most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional service; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance, should ever be divulged by the physician, except when he is imperatively required to do so. The force and the necessity of this obligation are indeed so great that professional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice.

§ 3. Frequent visits to the sick are in general requisite, since they enable the physician to arive at a more perfect knowledge of the disease—to meet promptly every change which may occur, and also tend to preserve the confidence of the patient; but unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and to render him liable to be suspected of interested motives.

§ 4. A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really occurs; and even to the patient himself if absolutely necessary. This office, however, is so peculiarly alarming when executed by him, that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy; for the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirit he may smooth the bed of death, revive expiring life, and counteract the depressing influence of those maladies which often disturb the tranquillity of the most resigned in the last moments. The life of a sick person can be shortened,

not only by the acts, but also by the words or the manner of a physician. It is, therefore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and depress his spirits.

§ 5. A physician ought not to abandon his patient because the case is deemed incurable; for his attendance may continue to be highly useful to the patient, and comforting to the relatives around him, even in the last period of a fatal malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance under such circumstances, would be sacrificing to fanciful delicacy and mistaken liberality that moral duty, which is independent of, and far superior to, all pecuniary consideration.

§ 6. Consultations should be promoted in difficult or protracted cases, as they give rise to confidence, energy, and more enlarged views in practice.

§ 7. The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, suffering under the consequences of vicious conduct, ought never to be neglected. His councils, or even remonstrances, will give satisfaction, not offence, if they be proffered with politeness and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.

OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

§ 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties towards the community, and who are required to make so many sacrifices of comfort, ease and health for the welfare of those who avail themselves of their services,

certainly have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants.

§ 2. The first duty of a patient is to select as his medical adviser one who has received a regular professional education. In no trade or occupation does mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

§ 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure, or any pursuit incompatible with his professional obligations. A patient should also confide the care of himself and family as much as possible to one physician; for a medical man who has become acquainted with the peculiarities of constitution, habits and predispositions of those he attends, is more likely to be successful in his treatment than one who does not possess that knowledge.

A patient who has thus selected his physician should always apply for advice in what may appear to him trivial cases, for the most fatal results often supervene on the slightest accidents. It is of still more importance that he should apply for assistance in the forming stage of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

§ 4. Patients should faithfully and unreservedly communicate to their physicians the supposed cause of their disease. This is the more important, as many diseases of mental origin stimulate those depending on external causes, and yet are only to be cured by ministering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser. He should always bear in mind that a medical man is under the strongest obligations of secrecy. Even the female sex should never

allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with the most serious consequences, and the patient may sink under a painful and loathsome disease, which might have been readily prevented had timely intimation been given to the physician.

§ 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms he will convey much more real information by giving clear answers to interrogatories, than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business, nor the history of his family concerns.

§ 6. The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink and exercise. As patients become convalescent, they are very apt to suppose that the rules prescribed for them may be disregarded; and the consequence, but too often, is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by the self-constituted doctors and doctresses who are so frequently met with, and who pretend to possess infallible remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief, and in all cases they are injurious, by contravening the plan of treatment adopted by the physician.

§ 7. A patient should, if possible, avoid even the *friendly visits of a physician* who is not attending him, and when he does receive them, he should never converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician without the express consent of his own medical attendant. It is of great importance that physicians should act in concert; for, although their modes of treatment may be attended with equal success when employed singly, yet conjointly, they are very likely to be productive of disastrous results.

§ 8. When a patient wishes to dismiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

§ 9. Patients should always, when practicable, send for their physicians in the morning, before his usual hour of going out; for, by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should also avoid calling on their medical advisers unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physician, as the detention of a few minutes is often of serious inconvenience to him.

§10. A patient should, after his recovery, entertain a just and enduring sense of the value of the services rendered him by his physician; for these are of such a character, that no mere pecuniary acknowledgment can repay or cancel them.

CHAPTER II.

OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.

DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

§ 1. Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness. He should, therefore, observe strictly such laws as are instituted for the government of its members; should avoid all contumelious or sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science, he should entertain a due respect for his seniors, who have, by their labors, brought it to the elevated condition in which he finds it.

§ 2. There is no profession, from the members of which greater purity of character, and a higher standard of moral excellence are required, than the medical; and to attain such eminence is a duty every physician owes alike to his profession and to his patients. It is due to the latter, as without it he cannot command their respect and confidence; and to both, because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding; and on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye and an unclouded head, may be essential to the well-being and even to the life of a fellow creature.

§ 3. It is derogatory to the dignity of the profession to

resort to public advertisements or private cards, or handbills, inviting the attention of individuals affected with particular diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures; or to publish cases or operations in the daily prints, or suffer such publications to be made; to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

§ 4. Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or of others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone gave it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

ARTICLE II.

PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

§ 1. All practitioners of medicine, their wives and their children, while under the paternal care, are entitled to the gratuitous services of any one or more of the faculty residing near them, whose assistance may be desired. A physician afflicted with disease is usually an incompetent judge of his own case, and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or any one who, by the ties of consanguinity, is rendered peculiarly dear to him, tend to obscure his judgment, and produce timidity and irresolution in his practice. Under

such circumstances, medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such unasked civility may give rise to embarrassment, or interfere with that choice on which confidence depends. But, if a distant member of the family, whose circumstances are affluent, requests attendance, and an honorarium be offered, it should not be declined; for no pecuniary obligation ought to be imposed which the party receiving it would wish not to incur.

ARTICLE III.

OF THE DUTIES OF PHYSICIANS AS RESPECTS VICARIOUS OFFICES.

§ 1. The affairs of life, the pursuit of health, and the various accidents and contingencies to which a medical man is peculiarly exposed sometimes require him temporarily to withdraw from his duties to his patients and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy, which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period, all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglects his business in quest of pleasure and amusement, he cannot be considered as entitled to the advantages of the frequent and long-continued exercise of this fraternal courtesy without awarding to the physician who officiates the fees arising from the discharge of his professional duties.

In obstetrical and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

ARTICLE IV.

OF THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

§ 1. A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent, regular practitioner, who has a license to practice from some Medical Board of known and acknowledged respectability, recognized by the American Medical Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation, whose practice is based on an exclusive dogma to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry.

§ 2. In consultations no rivalship or jealousy should be indulged. Candor, probity and all due respect should be exercised toward the physician having charge of the case.

§ 3. In consultations, the attending physician should be the first to propose the necessary questions to the sick; after which the consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case. Both physicians should then retire to a private place for deliberation, and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinions which it may be thought proper to express, but no statement or discussion of it

should take place before the patient or his friends, except in the presence of all the faculty attending, and by their common consent; and no *opinions* or *prognostications* should be delivered which are not the result of previous deliberation and concurrence.

§ 4. In consultation, the physician in attendance should deliver his opinion first; and when there are several consulting, they should deliver their opinions in the order in which they have been called in. No decision, however, should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But such variation and the reason for it ought to be carefully detailed at the next meeting in consultation. The same privilege belongs also to the consultating physician if he is sent for in an emergency, when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

§ 5. The utmost punctuality should be observed in the visits of physicians when they are to hold consultation together; and this is generally practicable, for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation; but, as professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period, after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will, of course, see the patient and prescribe, but if it be the consulting one, he should retire, except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the patient and give his opinion in *writing* and *under seal*, to be delivered to his associate.

§ 6. In consultations, theoretical discussions should be

avoided, as occasioning perplexity and loss of time, for there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

§ 7. All discussions in consultation should be held as secret and confidential. Neither by words nor manner should any of the parties to a consultation assert or insinuate that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants. They must equally share the credit of success, as well as the blame of failure.

§ 8. Should an irreconcilable diversity of opinion occur when several physicians are called upon to consult together, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician. It may, moreover, sometimes happen that two physicians cannot agree in their views of the nature of a case and the treatment to be pursued. This is a circumstance much to be deplored, and should always be avoided, if possible, by mutual concessions as far as they can be justified by a conscientious regard for the dictates of judgment; but in the event of its occurrence, a third physician should, if practicable, be called to act as umpire; and if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in whom he is most willing to confide; but as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation, or participation in the management of the case.

§ 9. As circumstances sometimes occur to render a *special consultation* desirable, when the continued attendance of physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases should sedulously guard against all future unsolicited

attendance. As such consultations require an extraordinary portion both of time and attention, at least a double honorarium may be reasonably expected.

§ 10. A physician who is called upon to consult, should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance; the practice of the latter, if necessary, should be justified as far as it can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentions or assiduities which are too often practiced by the dishonest for the base purpose of gaining applause, or ingratiating themselves into the favor of families and individuals.

ARTICLE V.

DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

§ 1. Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications—not on intrigue or artifice.

§ 2. A physician, in his intercourse with a patient under the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made—no disingenuous hints given relative to the nature and treatment of his disorder; nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

§ 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances; and when

they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

§ 4. A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency; or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances no unjust or illiberal insinuations should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor and regard for truth and probity will permit; for it often happens that patients become dissatisfied when they do not experience immediate relief, and, as many diseases are naturally protracted, the want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

§ 5. When a physician is called to an urgent case, because the family attendant is not at hand, he ought, unless his assistance in consultation be desired, to resign the care of the patient to the latter immediately on his arrival.

§ 6. It often happens, in cases of sudden illness or of recent accidents and injuries, owing to the alarm and anxiety of friends, that a number of physicians are simultaneously sent for. Under these circumstances courtesy should assign the patient to the first who arrives, who should select from those present any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

§ 7. When a physician is called to the patient of another practitioner, in consequence of the sickness or

absence of the latter, he ought, on the return or recovery of the regular attendant, and with the consent of the patient, to surrender the case.

[The expression, "patient of another practitioner," is understood to mean a patient who may have been under the charge of another practitioner at the time of the attack of sickness, or departure from home of the latter, or who may have called for his attendance during his absence or sickness, or in any manner given it to be understood that he regarded the said physician as his regular medical attendant.]

§ 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. The conduct to be pursued on such an occasion, is to give advice adapted to present circumstances; to interfere no further than is absolutely necessary with the general plan of treatment; to assume no further direction, unless it be expressly desired; and, in this last case, to request an immediate consultation with the practitioner previously employed.

§ 9. A wealthy physician should not give advice *gratis* to the affluent; because his doing so is an injury to his professional brethren. The office of physician can never be supported as an exclusively beneficent one; and it is defrauding, in some degree, the common funds for its support, when fees are dispensed with which might justly be claimed.

§ 10. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished during the attendance of the latter, he is entitled to the fee, but should resign the patient to the practitioner first engaged.

ARTICLE VI.

OF DIFFERENCES BETWEEN PHYSICIANS.

§ 1. Diversity of opinion and opposition of interest may, in the medical, as in other professions, sometimes occasion controversy, and even contention. Whenever such cases unfortunately occur, and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians, or a *court-medical.*

§ 2. As a peculiar reserve must be maintained by physicians towards the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical men may be painfully assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject-matter of such differences, nor the adjudication of arbitrators should be made public, as publicity in a case of this nature may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

ARTICLE VII.

OF PECUNIARY ACKNOWLEDGMENTS.

§ 1. Some general rules should be adopted by the faculty in every town or district, relative to *pecuniary acknowledgments* from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

CHAPTER III.

OF THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.

DUTIES OF THE PROFESSION TO THE PUBLIC.

§ 1. As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations, the location, arrangement, and dietaries of hospitals, asylums, schools, prisons, and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc., and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

§ 2. Medical men should also be always ready, when called on by the legally constituted authorities to enlighten coroners' inquests and courts of justice, on subjects strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison, or other violent means, and in regard to the various other subjects embraced in the science of Medical Jurisprudence. But in these cases, and especially where they are required to make a *post mortem* examination, it is just, in consequence of the time, labor and skill required, and the responsibility and risk they incur, that the public should award them a proper honorarium.

§ 3. There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limit should be placed to the performance of such good offices. Poverty, professional brotherhood, and certain of the public duties referred to in the first section of this article should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public, or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform militia duty, or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without pecuniary acknowledgment. But to individuals in indigent circumstances, such professional services should alway be cheerfully and freely accorded.

§ 4. It is the duty of physicians who are frequent witnesses of the enormities committed by quackery and the injury to health, and even destruction of life, caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretensions of artful empirics and impostors. Physicians ought to use all the influence which they may possess, as professors in Colleges of Pharmacy, and by exercising their option in regard to the shops to which their presciptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

ARTICLE II.

OBLIGATIONS OF THE PUBLIC TO PHYSICIANS.

§ 1. The benefits accruing to the public, directly or indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumption of ignorance and empiricism—to afford every encouragement and facility for the acquisition of medical education—and no longer to allow the statute-books to exhibit the anomaly of exacting knowledge from physicians, under a liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.

Resolved, That this Association recognize Specialties as proper and legitimate fields of practice.

Resolved, That Specialties shall be governed by the same rules of professional etiquette as have been laid down for general practitioners.

Resolved, That it shall not be proper for the Specialists publicly to advertise themselves as such, or assume any title not specially granted by a regularly chartered college.

ROLL OF MEMBERS

OF THE

Medical Association of Georgia.

1894.

ARRANGED ALPHABETICALLY.

ABBREVIATIONS—P., President; V-P., Vice-President; S., Secretary; C. S., Corresponding Secretary; T., Treasurer; O., Orator; C., Censor; indicating the offices the members hold or have held.

Members are particularly requested to notify the Secretary promptly on making any changes in their postoffices.

The Secretary will esteem it a favor if any member will write him at once on noticing any inaccuracy or omission in the roll.

Name.	Postoffice.	County.	Admitted.
Adams, Wm. E	Greensboro	Greene	1891
Allen, H. D	Milledgeville	Baldwin	1891
Alexander, G. L	Forsyth	Monroe	1894
Amster, L	Atlanta	Fulton	1894
Anderson, Newt	Eudora	Jasper	1894
Anthony, E. R. (V-P)	Griffin	Spalding	1887
Armstrong, W. S	Atlanta	Fulton	1886
Asbury, J. C	Greensboro	Greene	1891
Avary, Arch	Atlanta	Fulton	1887
Avary, J. C	Atlanta	Fulton	1889
Bacon, W. W	Albany	Dougherty	1890
Baily, J. W	Gainesville	Hall	1861
Baird, James B. (S., O.)	Atlanta	Fulton	1872
Baldwin, M. A	Cuthbert	Randolph	1890
Bardwell, E. L	Talbotton	Talbot	1872
Battle, H. L	Wadley	Jefferson	1891
Barnum, R. E. L	Savannah	Chatham	1892
Barron, R. B	Macon	Bibb	1884
Battey, H. H	Rome	Floyd	1882

Name.	Postoffice.	County.	Admitted.
Battey, Robert (C., P.)	Rome	Floyd	1859
Battey, W. W.	Augusta	Richmond	1876
Beasley, James A.	West Point	Troup	1884
Bedingfield, S. T.	Union	Stewart	1894
Bell, A. K.	Madison	Morgan	1889
Belt, L. J.	Herndon	Burke	1888
Benedict, Samuel C. (O.)	Athens	Clarke	1883
Bivins, R. T.	Ellaville	Schley	1893
Bizzell, B. W	Atlanta	Fulton	1894
Black, A. H.	Thomaston	Upson	1893
Blain, Arthur C	Macon	Bibb	1890
Blanton, G. W.	Brunswick	Glynn	1893
Blalock, W. J.	Atlanta	Fulton	1894
Bloomfield, James C.	Athens	Clarke	1890
Bosworth, Dan. B.	Atlanta	Fulton	1894
Boyd, Montague L.	Savannah	Chatham	1889
Boyd, A. F.	Iric	Bulloch	1891
Bozeman, E. K.	Friendship	Sumter	1892
Brigham, J. C.	Girard	Burke	1891
Brown, George	Atlanta	Fulton	1894
Brooks, C. A.	Americus	Sumter	1888
Brown, M. S.	Fort Valley	Houston	1894
Brown, H. A.	Fort Valley	Houston	1891
Brown, S. E.	Eatonton	Putnam	1890
Bruce, W. W.	Thomasville	Thomas	1881
Bruce, W. W.	Hamilton	Harris	1892
Bryans, R. G.	Jackson	Henry	1890
Bryan, J. A.	Gillsville	Hall	1894
Bryan, James H.	Belleview	Talbot	1892
Bryant, W. J.	Summerville	Chattooga	1892
Buford, O. H.	Cartersville	Bartow	1891
Bullard, W. L.	Columbus	Muscogee	1882
Burdett, J. R.	Tennille	Washington	1889
Burford, R. E. L.	Brunswick	Glynn	1890
Burford, H.	Brunswick	Glynn	1888
Butler, P. M.	Atlanta	Fulton	1894
Butts, R. M.	Gordon	Wilkinson	1892
Calhoun, A. T.	Cartersville	Bartow	1894
Calhoun, A. W. (V-P., C., P)	Atlanta	Fulton	1874
Calhoun, F. R. (V-P.)	Cartersville	Bartow	1873
Callaway, J. A.	Milledgeville	Baldwin	
Campbell, J. L.	Atlanta	Fulton	1894
Cato, F. L.	DeSoto	Sumter	1893
Cato, R. E.	Americus	Sumter	1893

Name.	Postoffice.	County.	Admitted.
Champion, W. L.	Atlanta	Fulton	1894
Chappell, Roy J	Dublin	Laurens	1890
Charlton, T. J	Savannah	Chatham	1887
Cheatham, W. B	Dawson	Terrell	1880
Childs, J. A	Atlanta	Fulton	1894
Cickey, D. C	Macon	Bibb	1894
Clark, M. A	Barnesville	Pike	1893
Clark, P. S	Darien	McIntosh	1890
Colding, C. H	Savannah	Chatham	1882
Cole, J. F	Carrollton	Carroll	1884
Coleman, Thomas D	Augusta	Richmond	1891
Collins, Katharine R	Atlanta	Fulton	1894
Comas, P. H	Baxley	Appling	1889
Connally, E. L. (C.)	Atlanta	Fulton	1860
Cortelyou, P. R. (V-P.)	Marietta	Cobb	1887
Corss, J. Kennedy	Atlanta	Fulton	1894
Cooper, Hunter P	Atlanta	Fulton	1894
Cotter, R. O	Macon	Bibb	1882
Coursey, W. D	Lyons	Tattnall	1894
Cox, W. J	Flovilla	Butts	1894
Crawford, A. H	Abbeville	Wilcox	1893
Crawford, J. M	Atlanta	Fulton	1888
Crawford, O. G	Sasser	Terrell	1893
Croley, John G	Milledgeville	Baldwin	1893
Crozier, J. H	Cedar Springs	Early	1889
Crow, W. A	Atlanta	Fulton	1892
Currie, M. L	Mt. Vernon	Glynn	1890
Culpepper, W. F	Senoia	Coweta	1892
Crumley, W. F	Oglethorpe	Macon	1892
Cox, Ross P	Rome	Floyd	1891
Darby, J. I	Americus	Sumter	1893
Danforth, A. R	Atlanta	Fulton	1894
Davidson, A. C	Sharon	Taliaferro	1887
Davis, E. C	Atlanta	Fulton	1894
Davis, Jeff	Toccoa	Habersham	1893
Davis, Wm. L	Albany	Dougherty	1893
Davis, T. B	Newnan	Coweta	1892
Darden, N. M	Norwood	Warren	1891
Deadwyler, M. P. (V-P.)	Elberton	Elbert	1868
Dean, W. L	Woodstock	Cherokee	1894
Dean, J. G	Dawson	Terrell	1889
Divine, K. C	Atlanta	Fulton	1882
Doster, B. R. (V-P. C.)	Blakely	Early	1873

Name.	Postoffice.	County.	Admitted.
Doughty, W. H. (C.)	Augusta	Richmond	1857
Doughty, W. H. Jr	Augusta	Richmond	1880
Douglass, J. E.	Cuthbert	Randolph	1889
Dozier, R. T.	Coleman	Randolph	1893
Drewry, S. E.	Griffin	Spalding	1892
Dudley, M. J.	Sonoraville	Gordon	1880
Duggan, J. H.	Stephensville	Wilkinson	1884
Duncan, J. W.	Atlanta	Fulton	1883
Duncan, William	Savannah	Chatham	1868
Dunwoody, J. A. (V-P.)	Brunswick	Glynn	1888
Earnest, J. G.	Atlanta	Fulton	1882
Elkin, W. S.	Atlanta	Fulton	1882
Elliott, W. H. (P)	Savannah	Chatham	1884
England, W. G.	Cedartown	Polk	1886
Eve, Robert C	Augusta	Richmond	1894
Felder, L. A	Atlanta	Fulton	1894
Field, J. C	Oglethorpe	Macon	1889
Fitts, W. L	Carrollton	Carroll	1890
Folks, G. P	Waycross	Ware	1890
Foster, Eugene (V-P., C., P.)	Augusta	Richmond	1875
Freeman, S. H	Dacula	Gwinnett	1891
Gantier, W. T.	Columbus	Muscogee	1892
Garlington, T. R	Rome	Floyd	1893
Gaulden, Samuel S	Quitman	Brooks	1892
Gann, Wm. F	Columbus	Muscogee	1891
Garland, J. T.	Hillsboro	Jasper	1889
Gaston, J. McF	Atlanta	Fulton	1884
Gaston, J. McF., Jr	Atlanta	Fulton	1894
Gay, D. E.	Sidney	Emanuel	1875
Gerdine, John (C., V-P.)	Athens	Clarke	1882
Gheesling, J. H.	Greensboro	Greene	1891
Gilmer, Wm. B.	Macon	Bibb	1893
Gill, H. L.	Atlanta	Fulton	1894
Goldin, W. F	Drake Town	Haralson	1894
Goldsmith, W. S	Atlanta	Fulton	1893
Goodrich, E. C. (T.)	Augusta	Richmond	1876
Googe, W. R.	Abbeville	Wilcox	1892
Goss, I. H	Athens	Clarke	1877
Grandy, L. B.	Atlanta	Fulton	1893
Green, C. C.	Atlanta	Fulton	1887
Green, J. E.	Augusta	Richmond	1892
Greenwood, T. M	Mineral Bluff	Fannin	1894
Goolsby, R. C.	Juliette	Monroe	1891

Name.	Postoffice.	County.	Admitted.
Green, S. H.	Oakdale	Fulton	1892
Griffin, C. F.	Cassville	Bartow	1888
Griggs, A. W. (o., v-p., c., p.)	West Point	Troup	1866
Griggs, R. E.	Columbus	Muscogee	1892
Griggs, J. W.	West Point	Troup	1892
Grimes, George J. (v.p.)	Columbus	Muscogee	1872
Ham, E. P.	Gainesville	Hall	1892
Hamilton, C.	Rome	Floyd	1894
Hammond, R. A.	Logansville	Walton	1894
Hallum, J. W.	Carrollton	Carroll	1891
Harrington, A. L.	West Point	Troup	1892
Hagan, Hugh	Atlanta	Fulton	1892
Harbin, R. M.	Calhoun	Gordon	1894
Hardman, L. G.	Harmony Grove	Jackson	1877
Hardman, W. B.	Harmony Grove	Jackson	1892
Hardon, Virgil O. (o.)	Atlanta	Fulton	1886
Harris, R. B.	Savannah	Chatham	1885
Harris, N. O.	Atlanta	Fulton	1887
Harris, E. A.	Burke	Midville	1893
Harrison, W. H., Jr.	Augusta	Richmond	1886
Hart, C. C	Cross Keys	DeKalb	1888
Hatchett, J. M.	Fort Gaines	Clay	1892
Hawkins, A. M. F.	Ball Ground	Cherokee	1891
Head, J. M.	Zebulon	Pike	1883
Heard, J. H.	Walden	Bibb	1884
Henderson, J. R.	Sun Hill	Washington	1884
Herrman, J. D.	Eastman	Dodge	1884
Hickman, C. W.	Augusta	Richmond	1891
Hill, J. J.	Washington	Wilkes	1880
Hillsman, P. L.	Albany	Dougherty	1871
Hobbs, A. G.	Atlanta	Fulton	1882
Hogg, J. N.	West Point	Troup	1892
Holliday, W. Z.	Augusta	Richmond	1884
Holmes, J. B. S. (v-p., p.)	Atlanta	Fulton	1872
Holt, W. F. (v-p., p.)	Macon	Bibb	1867
Hopkins, T. S.	Thomasville	Thomas	1865
Hopkins, J. G.	Thomasville	Thomas	1890
Horine, George S.	Americus	Sumter	1893
Horrocks, J. Marion	Thomasville	Thomas	1893
Horsley, J. S.	West Point	Troup	1894
Howell, Dan. H. (s.)	Atlanta	Fulton	1878
Hood, J. W.	Atlanta	Fulton	1894
Hull, J. M. (v-p.)	Augusta	Richmond	1882
Humphries, W. C.	Acworth	Cobb	1890

Name.	Postoffice.	County.	Admitted.
Humphries, J. R.	Acworth	Cobb	1876
Hurt, Charles D.	Atlanta	Fulton.	1890
Hutchins, M. B.	Atlanta	Fulton	1892
Jelks, N. P.	Hawkinsville	Pulaski	1882
Jefferson, Wesley	Buena Vista	Marion	1892
Johnson, J. C.	Macon	Bibb	1875
Johnson, C. Evans	Atlanta	Fulton	1892
Johnson, L. M.	Rowland	Upson	1893
Johnson, J. C.	Atlanta	Fulton	1894
Jones, Louis H.	Atlanta.	Fulton	1890
Jones, L. M.	Milledgeville	Baldwin	1880
Jones, R. D.	Summerville	Chattooga	1892
Jones, T. S.	Jeffersonville	Twiggs	1893
Jordan, Seth N.	Columbus	Muscogee.	1892
Keaton, P. H.	Damascus	Early	1889
Kelley, J. M.	Griffin	Spalding	1885
Kelley, T. J.	Indian Springs	Butts.	1884
Kendrick, W. S. (o.)	Atlanta.	Fulton	1874
Kendrick, R. T.	Allapaha	Berrien.	1891
Kime, R. R.	Atlanta.	Fulton	1892
Kenyon, O. T.	Weston	Webster	1892
Lancaster, J. F.	Forsyth.	Monroe.	1884
LeHardy, J. C. (T., V-P.)	Savannah	Chatham.	1868
Lockhardt, V. D.	Homer	Banks	1891
Logan, A. J.	Roney.	Sumter	1882
Love, T. D.	Atlanta	Fulton	1887
Lovvoon, J. L.	Bowden	Carroll.	1894
Mallory, R. A.	Concord	Pike.	1893
Maloy, W. C.	Rhine	Dodge	1893
Maloy, John K.	Milan	Telfair	1890
Manderville, J. T	Cuthbert	Randolph.	1894
Mathis, A.	Macon	Bibb	1872
Mathews, W. J.	Zetella.	Spalding.	1892
Matthews, S. M.	Quitman	Brooks	1890
Malone, J. D.	Marietta	Cobb	1891
Martin, J. D.	Savannah.	Chatham	1894
May, W. F.	Savannah.	Chatham.	1894
McDonald, C. M.	Leesburg	Lee	1892
McDuffie, James H.	Columbus.	Muscogee	1893
McHatton, H. (C., V-P.)	Macon.	Bibb.	1883
McIntosh, T. M.	Thomasville	Thomas	1874
McIntosh, P. A.	Thomasville	Thomas	1893
McKown, J. A.	Jonesboro	Clayton	1891

Name.	Postoffice.	County.	Admitted.
McKown, T. D.	Chickamauga	Walker	1887
McLeod, R. D.	Lyons	Montgomery	1893
McMaster, H. B.	Waynesboro	Burke	1888
McMaster, D. E.	Mumerlyn	Burke	1894
McRae, A. B.	Seville	Wilcox	1893
McRae, C. D.	Rochelle	Wilcox	1893
McRae, F. W.	Atlanta	Fulton	1887
Miller, R. L.	Hephzibah	Richmond	1891
Mitchell, Thomas E.	Columbus	Muscogee	1892
Miller, G. T. (V-P)	Americus	Sumter	1892
Monroe, Henry S.	Ellaville	Schley	1893
Moore, K. P. (V-P., P., S. O. T.)	Macon	Bibb	1871
Mooney, H. R.	Hagan	Bryan	1891
Mooreland, A. C.	Forsyth	Monroe	1892
Morgan, J. B.	Augusta	Richmond	1891
Mobley, H. A.	Byronville	Dooly	1891
Mulligan, G. W. (V-P., P.)	Washington	Wilkes	1883
Neal, J. W.	Scotland	Telfair	1892
Nicolson, Wm. Perrin	Atlanta	Fulton	1883
Nichols, D. N.	Laston	Bulloch	1891
Niles, Geo. M.	Marshallville	Macon	1893
Nisbet, D. B.	Eatonton	Putnam	1894
Noble, G. H.	Atlanta	Fulton	1883
Nunn, R. J. (C., V-P., P.)	Savannah	Chatham	1867
O'Daniel, Mark H. (O., C., V-P.)	Macon	Bibb	1882
O'Daniel, William (T., P.)	Bullard	Twiggs	1870
O'Daniel, W. A. (O.)	Milledgeville	Baldwin	1886
Owens, W. W.	Savannah	Chatham	1891
Patterson, F. D.	Lumpkin	Stewart	1892
Patterson. J. C.	Milledgeville	Baldwin	1894
Parks, W. B.	Atlanta	Fulton	1882
Pattillo, John T.	West Point	Troup	1892
Paige, John D.	Savannah	Chatham	1892
Payne, George F.	Atlanta	Fulton	1894
Peete, C. H.	Macon	Bibb	1893
Pendergrass, J. B.	Jefferson	Jackson	1883
Perdue, H.	Barnesville	Pike	1889
Petrie, C. B.	Athens	Clarke	1894
Phillips, S. Latimer	Savannah	Chatham	1890
Poland, S. B.	Griswoldville	Jones	1891
Ponder, W. P.	Forsyth	Monroe	1885
Powell, T. O. (P)	Milledgeville	Baldwin	1867
Powell, John F.	Kramer	Wilcox	1893

Name.	Postoffice.	County.	Admitted.
Poole, W. H.	Douglasville	Douglas	1894
Poore, J. J.	Monroe	Walton	1894
Purse, M. A.	Atlanta	Fulton	1894
Quarterman, K. A.	Walthourville	Liberty	1885
Quillian, H. P.	Arp.	Banks.	1888
Quillian, D. D.	Athens	Clarke.	1892
Quinn, C. T.	Naylor	Lowndes	1893
Ramsaur, D. H.	Rome	Floyd	1888
Read, J. B.	Savannah	Chatham.	1851
Rhodes, P. M.	Taylorville	Bartow	1894
Richardson, C. H.	Montezuma.	Macon.	1886
Richardson, E. H. (o.,c.,v-p.)	Atlanta	Fulton	1878
Ridding, J. H.	Waycross	Ware	1893
Ridley, F. M. (o., c.).	LaGrange.	Troup	1887
Ridley, R. B.	Atlanta	Fulton	1887
Roberts, J. B. (v-p.)	Sandersville	Washington	1875
Rogers, W. T.	Coleman	Randolph	1893
Rowland, A. A.	Brunswick	Glynn.	1890
Rose, E. P.	Valdosta.	Lowndes	1893
Roy, G. G.	Atlanta.	Fulton	1878
Roy, Dunbar.	Atlanta	Fulton	1892
Royal, A. R.	Abbeville	Wilcox	1892
Ross, James T.	Macon	Bibb	1891
Roper, L. E.	Lula.	Hall	1894
Rumble, S.	Goggins.	Monroe.	1891
Scarborough, J. F.	Tippettville	Dooly	1893
Scott, H. F. (o.)	Atlanta.	Fulton	1879
Selman, J. L.	Douglasville	Douglas	1894
Sessoms, W. C.	Nicholls	Coffee.	1893
Sewell, J. R	Erastus	Banks	1894
Shannon, John R.	Cabaniss	Monroe	1893
Shorter, James H.	Macon	Bibb	1893
Singleton, O. G.	Fort Valley.	Houston	1892
Sibbett, W. F.	Broxton.	Coffee.	1890
Simpson, W. T.	Smithville.	Lee	1892
Simpson, J. R.	Atlanta	Fulton	1894
Simmons, A. B.	Savannah	Chatham	1891
Sims, J. H.	Columbus	Muscogee.	1892
Sims, J. C.	Columbus.	Muscogee	1892
Slack, Henry R.	LaGrange	Troup.	1893
Smith, A. A. (v.-p., p.)	Hawkinsville	Pulaski	1875
Smith, B. F.	Elberton.	Elbert.	1893
Smith, C. H	Ellaville.	Schley.	1893

Name.	Postoffice.	County.	Admitted.
Smith, H. J.	Blackshear	Pierce	1887
Smith, C. D.	Atlanta	Fulton	1894
Solomon, J. C.	Flovilla	Butts.	1884
Sorrells, R. P.	Athens	Clarke	1887
Spence, J. M., Jr.	Waresboro	Ware	1890
Spears, W. T.	Rutledge	Morgan	1894
Spier, C. P.	Wadley	Jefferson	1886
Standifer, W. B.	Blakely	Early	1886
Stephens, L. P.	Atlanta	Fulton	1888
Stewart, J. F.	Griffin	Spalding	1892
Stewart, W. W.	Columbus.	Muscogee	1892
Stevens, V. P.	Putnam	Marion.	1892
Stone, George H.	Savannah	Chatham	1875
Stovall, A. S. J.	Elberton	Elbert.	1886
Stovall, G. M.	Elberton	Elbert	1894
Strother, William A.	Albany	Dougherty	1867
Sullivan, J. S.	Macon	Bibb	1893
Taliaferro, V. H.	Atlanta	Fulton	1894
Tankersley, J. S	Ellijay	Gilmer.	1894
Tate, William B. (V-P.)	Tate.	Pickens.	1890
Taylor, A. P.	Thomasville	Thomas	1873
Taylor, J. P.	Haralson	Coweta	1859
Taylor, R. H. (V-P.)	Griffin	Spalding	1879
Tarver, F. E.	Augusta	Richmond	1891
Terrell, H. W.	Glenwood	Meriwether	1892
Terrell, W. W.	Greenwood.	Montgomery	1893
Thomas, F. B.	Americus.	Sumter	1893
Thomas J. M.	Atlanta	Fulton	1894
Thompson, P. H.	Bluffton	Clay	1886
Todd, J. S. (O., C., P.)	Atlanta.	Fulton	1872
Trimble, G. C.	Bullard.	Twiggs.	1891
Tye, R. L.	McDonough	Henry.	1887
Tyson, J. D.	Andrian	Emanuel	1893
Van Goidtsnoven, E.	Atlanta	Fulton	1887
Vanhorne, J. T.	Monroe	Walton	1892
Walker, W. F.	Dranesville.	Marion	1892
Wall, H. A.	Bronwood	Terrell	1892
Walker, J. L.	Waycross	Ware.	1882
Weaver, J. D.	Eatonton	Putnam	1894
Weaver, J. A.	Buena Vista	Marion	1890
Webb, C. S.	Atlanta	Fulton	1892
Wegefarth, J. A. W.	Savannah	Chatham.	1894
Welchel, John E.	Gillsville	Hall.	1891
Westmoreland, W. F. (O. P.)	Atlanta.	Fulton	1881

Name.	Postoffice.	County.	Admitted.
Whelchel, C. C.	Comer.	Hall.	1891
Whitaker, J. M.	Milledgeville.	Baldwin.	1883
Whitehead, A. G. (V-P.).	Waynesboro.	Burke.	1861
Wills, T. J.	Daneilsville	Madison.	1889
Williams, W. P.	Waycross	Ware.	1890
Williams, H. J. (O).	Macon	Bibb	1880
Williams, G. B.	Tallokas	Brooks	1893
Wilcox, G. A.	Augusta.	Richmond	1892
Wimberly, John.	Sanford	Stewart.	1891
Winchester, E. A.	Desoto.	Sumter	1893
Winchester, J. H.	Americus.	Sumter	1893
Winchester, W. R.	Macon.	Bibb	1883
Wise, B. T.	Plains.	Sumter	1893
Wolff, Bernard.	Atlanta.	Fulton.	1894
Wood, W. E.	Dalton.	Whitfield	1891

NON-RESIDENTS.

Pery, Thomas B., U. S. Marine Hosp. Sr.,	Fortress Monroe,	Va.	1891
Gann, Dewell.	Benton.	Arkansas	1887
Prather, W. B.	Scale	Alabama	1894
Glass, J. M.	Opelika.	Alabama.	1894

HONORARY LIST.

This list is designed for aged, retired or infirm members of the Association, who are entitled to all the privileges of the Association without the payment of dues.

The Secretary would be obliged to members to report any names that should go on this list.

Name.	Postoffice.	County.	Admitted.
Alexander, J. F. (P., C., V-P.).	Atlanta	Fulton.	1849
Beasley, ——.	West Point.	Troup.	1849
Bell, A. A.	Madison.	Morgan.	1858
Brantley, S. D.	Sandersville.	Washington	1849
Brawner, W. M.	Lexington.	Oglethorpe	1883
Coleman, J. T.	Perry	Houston.	1851
Griggs, A. W. (O., V-P., C., P.)	West Point.	Troup.	1866
Hopkins, T. S.	Thomasville.	Thomas.	1865
Hoyt, W. D.	Rome	Floyd.	1871
Leitner, C. B.	Columbus	Muscogee.	1852
Love, Wm. Abram, (V-P.).	Atlanta	Fulton.	1866
Miller, H. V. M.	Atlanta	Fulton.	1851
Powell, T. S. (V-P)	Atlanta	Fulton.	1857
Smith, J. B.	Perry	Houston.	1870

In Memoriam.

☞ SPECIAL REQUEST TO EVERY MEMBER.—The Secretary *earnestly requests each member of the Association* to aid him *in filling* THE BLANKS in the following Roll of Deceased Members *by making the necessary inquiries* in their respective cities and counties, *and writing him at once* on obtaining the desired information.

Name.	Postoffice.	County.	Admitted.	Died.
Adams, C. B.	Augusta	Richmond	1868	1875
Alexander, J. R.	Cave Spring	Floyd	1849	
Alexander, L. B.	Forsyth	Monroe		1891
Alfriend, E. W. (V-P.)	Albany	Dougherty	1852	1886
Arnold, R. D. (V-P., P.)	Savannah	Chatham	1849	1876
Ashworth, A. B. (S.)	Atlanta	Fulton	1887	1889
Avary, J. C	Decatur	DeKalb	1859	1873
Baker, A. H.	Augusta	Richmond	1876	1891
Ballinger, M. R.	Floyd Springs	Floyd	1860	1886
Banks, J. T. (V-P., P.)	Griffin	Spalding	1858	1880
Barkwell, T. J.	Hawkinsville	Pulaski	1859	
Barnett, J. W.	Raytown	Taliaferro	1880	1890
Battle, H. L.	Russellville	Monroe	1849	
Bell, T. W.	Busbyville	Houston	1853	
Bignon, H. A.	Augusta	Richmond	1852	1870
Billing, S. A.	Columbus	Muscogee	1855	1872
Bizzell, W. D. (V-P.)	Atlanta	Fulton	1882	1890
Black, R. C. (T.)	Augusta	Richmond	1852	1860
Bomar, B. F.	Atlanta	Fulton	1859	
Borcheim, L. E.	Atlanta	Fulton	1886	1887
Boswell, S. J. (V-P.)	Columbus	Muscogee	1855	
Bothwell, D. J.	Vienna	Dooly	1849	
Bozeman, J. F.	Atlanta	Fulton	1855	1877
Boring, John M. (V-P.)	Atlanta	Fulton	1856	1891
Brandon, D. S.	Thomasville	Thomas	1878	1878
Broadhurst, W. W.	Augusta	Richmond	1852	1861
Bruce, R. J.	Thomasville	Thomas	1874	1880
Bunn, William	Wilna	Houston	1854	
Burgess, Wm. R. (T., O.)	Macon	Bibb	1870	1878
Burney, S. W. (P.)				1876

Name.	Postoffice.	County.	Admitted.	Died.
Campbell, Robert	Augusta.	Richmond	1849	1885
Carroll, J. C.	Laurens Hill	Laurens	1857	1870
Carroll, R. C	Augusta.	Richmond	1873	1882
Carter, C. J.	Lake Park	Lowndes	1889	1893
Castlen, F. G	Macon.	Bibb.	1867	1874
Carlton, J. M.	Athens	Clarke.	1882	1883
Charlton, T. J. (c.)	Savannah.	Chatham	1862	1886
Charters, W. M. (P.)	Savannah.	Chatham	1851	1883
Chase, D. S	Augusta.	Richmond	1862.	
Clark, S. B.	Rich. Factory	Richmond	1852.	
Campbell, H.F. (o, v-P, P.)	Augusta.	Richmond	1851	1892
Coe, J. N.	Flat Rock	Pike	1856.	
Coleman, John S.	Augusta.	Richmond	1891	1892
Colley, F. S. (P.)	Monroe.	Walton	1856.	
Cooper, G.F. (o., s., v-P)	Sumter	Americus.	1849	1882
Copeland, A. B.	Hamilton	Harris	1878	1882
Cornwall, G. H.	Hillsboro	Jasper	1854.	
Crawford, S. S.	Augusta.	Richmond	1857.	
Crump, E. D	Herndon	Burke	1872	1881
Cumming, H. M.	Augusta	Richmond	1862	1887
Cunningham, L. S.	Big Creek	Forsyth.	1859	1862
Cunningham, W. D.	Jasper	Pickens	1859	1866
D'Alvigney, N.	Atlanta.	Fulton.		1877
Davenport, C. W	Point Peter	Oglethorpe.	1852.	
Davenport, H. S.	Calhoun	Gordon.	1859.	
Davis, W. L.	Albany	Dougherty.	1849.	
Dean, S. H.	Conyers.	Rockdale.	1856	
Dearing, W. E.	Augusta.	Richmond	1852	1867
DeCortez, C. A.	Savannah.	Chatham.	1872.	
Dickinson, J. T	Albany	Dougherty.	1857.	
Dickinson, R.Q. (v-P., P.)	Albany	Dougherty.	1850.	
Dobbins, W. O.	Fort Gaines	Clay	1883	1890
Dugas, L. A. (P.)	Augusta.	Richmond	1852	1884
Dupree, L. J.	Camilla	Mitchell		
Engram.	Montezuma.	Macon.	1881	1883
Eve, Jos. A.	Augusta.	Richmond	1852	1886
Eve, S. C.	Augusta.	Richmond	1868	1884
Felder, W. L.	Augusta.	Richmond	1857	1867
Fish, J. D. (T)	Savannah	Chatham.	1875	1879
Fitzgerald, E.	Macon.	Bibb.	1882	1885
Ford, L. D (P.)	Augusta.	Richmond	1849	1884
Fort, Moses T.	Hawkinsville	Pulaski.	1859	1878
Franklin, M. A.	Macon.	Bibb.	1849	1858

Name.	Postoffice.	County.	Admitted.	Died.
Frazier, W. M.	Hawkinsville	Pulaski	1850	
Gaither, Henry	Oxford	Newton	1851	
Gaither, B. T.	Oxford	Newton	1852	1853
Gardner, J. W.	Augusta	Richmond	1857	
Girardy, Edward	Augusta	Richmond	1852	1859
Gordon, J. M.	Savannah	Chatham	1849	
Gray, James A. (s.)	Atlanta	Fulton	1882	1887
Gray, S. H.	Barnesville	Pike	1871	1885
Green, A. B.	Pond Town	Sumter	1849	
Green, H. K.	Macon	Bibb	1849	1867
Green, Thomas F.	Milledgeville	Baldwin	1849	1879
Gregory, J. D.		Sumter.	1849	
Grimes, T. W.	Columbus	Muscogee	1855	1882
Habersham, J. C.	Savannah	Chatham	1853	
Habersham, J.C., Jr. (v-p)	Savannah	Chatham	1866	1881
Haberham, S. E.	Eatonton	Putnam	1870	
Hammond, D. W. (v-p., c.)	Macon	Bibb.	1857	1887
Harden, W. P.	Harmony Grove	Jackson	1852	1885
Harrell, W. J.	Bainbridge	Decatur	1874	1881
Harris, S. N. (v-p.)	Savannah	Chatham	1851	1854
Harrison, Gabriel	Macon	Bibb		1862
Harris, Juriah (o., v-p.)	Savannah	Chatham	1852	1876
Havis, M. W.	Perry	Houston	1854	1890
Hart, A. C.	Waynesboro	Burke	1852	
Hawes, E. C.	Appling	Columbia	1862	
Hawkins, S. B.	Americus	Sumter	1871	1892
Heard, T. O.	Griffin	Spalding.	1867	
Hendrick, J. B.	Covington.	Newton	1857	1881
Henry, G. C.	West Point	Troup.	1872	
Hook, E. B.	Augusta	Richmond	1857	1862
Houston, J. P. R.	Savannah	Chatham	1873	1892
Hoxey, Thomas	Columbus	Muscogee	1849	1853
Hollingsworth, W. T.	Madison	Morgan	1857	1893
Holmes, G. W. (v-p., p., c.)	Rome	Floyd	1867	1890
Holmes, T. M. (o.)	Rome	Floyd	1883	1891
Hamilton, J. L.	Stone Mountain	DeKalb	1859	1890
Hunter, E. H. W.	Louisville	Jefferson	1857	1883
Ingraham, E. P.	Albany	Dougherty	1870	1873
Irvine, Robert	Augusta	Richmond	1880	1881
Johnson, C. W.	Macon	Bibb	1870	1875
Johnson, John M.	Atlanta	Fulton	1866	1886
Jones, B. O.	Atlanta	Fulton.		
Jones, J. W.	Atlanta	Fulton.	1857	1871

Name.	Postoffice.	County.	Admitted.	Died.
Kennedy, L. P	Atlanta	Fulton	1890	1892
Kennebrew, Henry	Athens	Clarke	1883	1886
Kirksey, E. J. (V-P.)	Columbus	Muscogee	1871	1877
Kollock, P. M. (P.)	Savannah	Chatham	1852	1872
Lamar, T. R. (V-P.)	Macon	Bibb	1849	1859
Lightfoot, W. S	Macon	Bibb	1849	1864
Lackhart, R. H.	Columbus	Muscogee	1855	1859
Lattimer, C. T	Macon	Bibb	1889	1889
Lawrence, L. L	Blountsville	Jones	1889	1890
Long, Crawford W	Athens	Clarke	1849	1878
Longan, J. P. (P.)	Atlanta	Fulton	1858	1891
Lumpkin, George	Maxey's Depot	Oglethorpe	1859	
Lumpkin, S. P	Watkinsville	Clarke	1859	
Mackie, J. D	Augusta	Richmond	1852	1854
Maffit, R. G. W	Dalton	Whitfield	1859	
Matthews, W. B	Fort Valley	Houston	1884	1885
McBride, W. G	Oconee	Washington	1850	1878
McDowell, J. M	Barnesville	Pike	1887	1891
McGolrick, R	Macon	Bibb	1849	1853
McKinley, C. A	Newnan	Coweta	1859	
McMillan, J. E	Columbus	Muscogee	1872	1883
Means, A. (V-P.)	Oxford	Newton	1851	1883
Means, O. S	Oxford	Newton	1857	
Meiere, William S	Madison	Morgan	1857	
Milam, R. J	Fairburn	Campbell	1882	1882
Morrison, D. H	Savannah	Chatham	1868	1869
Musgrove, W. C. (C.S.)	Midville	Burke	1849	1876
Nash, R. A	Marion	Twiggs	1849	
Nisbet, R. H	Eatonton	Putnam	1854	1878
Noell, S. G	Ypsilanti	Talbot	1892	1892
Nottingham, C.B. (S,T,C,P)	Macon	Bibb	1849	1875
Nunn, R. M	Savannah	Chatham	1871	1878
Ogilby, H. J. (V-P)	Madison	Morgan	1849	1878
O'Keefe, D. C. (S.)	Atlanta	Fulton	1852	1871
Orme, L. H. (S)	Atlanta	Fulton	1866	1872
O'Sullivan, ——	Cork	Lee	1849	
Owen, J. D		Baldwin	1850	
Parsons, J. M	Russellville	Monroe	1845	
Pitts, G. W	Star	Butts	1859	
Posey, J. F	Savannah	Chatham	1851	
Pringle, W	Covington	Newton		

Name.	Postoffice.	County.	Admitted.	Died.
Ragan, Ishman H.	Palmyra	Lee	1856	
Raines, Thomas	Atlanta	Fulton	1872	1883
Raines, T. L.	Atlanta	Fulton	1882	1884
Rauschenberg, Christ'n.	Atlanta.	Fulton	1861	1878
Richardson, C. P.	Savannah	Chatham	1851	1853
Ridley, R. A. T. (V-P.)	LaGrange	Troup	1859	1871
Robertson, J. J	Washington	Wilkes.	1852	1872
Roddy, R. L. (V-P.)	Forsyth	Monroe	1849	1878
Ruffin, W. R.	Augusta	Richmond	1852	
Russell, W. J.	Lawrenceville	Gwinnett	1861	
Ryan, T. D. L.	Hawkinsville	Pulaski	1859	1876
Stafford, S. J.	Madison	Morgan	1856	1859
Searcy, D. B.	Bolingbroke.	Monroe	1849	1885
Shropshire, J. W.			1871	
Simmons, J. N.	Atlanta	Fulton.	1850	1871
Simmons, J. S.	Gainesville.	Hall	1873	1881
Simmons, S. B.	Augusta	Richmond	1852	1867
Simmons, T. A.	Irwington	Wilkinson	1871	1872
Slaughter, J. T.	Villa Rica		1859	1889
Smith, A. D.	Montezuma.	Macon	1871	
Smith, C. W.	Jonesboro	Clayton	1859	
Smith, Hiram	Augusta	Richmond	1876	1888
Smith, H. H.	Augusta	Richmond	1886	1887
Smith, R. M. (C.)	Athens	Clarke		1879
Smith, Thomas	Savannah	Chatham	1858	1876
Spier, W. A.	Grantville	Coweta	1859	
Stallings, J. D.	Preston	Webster.	1871	
Stanford, F. A.	Columbus	Muscogee	1849	1885
Starr, E. P.	Savannah	Chatham	1868	1873
Steele, H.	Knoxville	Crawford	1849	
Steele, R. T.	Fairburn.	Campbell	1849.	
Steiner, H. H.	Augusta	Richmond	1857	1892
Stephens, W. B.	Forsyth	Monroe	1849	
Sterling, W. L.	Atlanta.	Fulton.	1878	1894
Stewardson, Thomas	Savannah	Chatham	1849	
Stozier, L. L.	Albany	Dougherty	1867	
Sutton, C. B.		Lee	1856	
Taliaferro, V. H. (V-P.)	Atlanta.	Fulton.	1857	1887
Taylor, E. T.	Columbus	Muscogee	1855	
Taylor, R. N.	Hawkinsville	Pulaski	1850	
Thomas, J. G. (V-P, P, C, T.)	Savannah	Chatham	1867	1885
Thompson, Charles	Macon.	Bibb.	1849	1854
Trammell, A. A.	Forsyth	Monroe.	1856	

Name.	Postoffice.	County.	Admitted.	Died.
Tucker, O. W.	Brunswick	Glynn	1890	1891
Underwood, J. B.	Cave Spring	Floyd	1860	1881
Van Meter, J. N.	Euharlee	Bartow	1879	1881
Wall, W. W	Calhoun	Gordon	1860	
Walker, T. F.	Cochran	Pulaski	1859	1888
Walker, F	Macon	Bibb	1889	1891
Ware, A. E. O			1859	
Waring, J. J.	Savannah	Chatham	1853	1888
Watson, W. A.	Jefferson	Jackson	1883	1889
Wells, C. H.	Savannah	Chatham	1853	1854
Wells, W. B	Chattanooga	Tennessee	1873	1891
West, Charles (P.)	Perry	Houston	1849	
West, C. W.	Savannah	Chatham	1853	1859
Westmoreland, W. F.(P)	Atlanta	Fulton	1856	1890
White, S. G. (V-P.)	Milledgeville	Baldwin	1868	1877
Whitlock, Isaac W	Washington	Wilkes	1852	1853
Wile, Henry	Atlanta	Fulton	1886	1887
Wiley, J. B.	Macon	Bibb	1849	
Williams, T. L.		Dooly	1849	
Williams, W. L.	Fayetteville	Fayette	1873	
Willingham, Willis	Lexington	Oglethorpe	1849	1872
Winn, G. A.	Bolingbroke	Monroe	1849	1862
Wirsen, G. F.	Rutledge	Morgan	1871	1884
Woodson, C. T.	Wilna	Houston	1854	
Wooten, W. H.	Lexington	Oglethorpe	1852	1860
Word, T. J.	Rome	Floyd	1887	1890
Word, R. C.	Atlanta	Fulton	1855	1890
Wragg, J. A.	Savannah	Chatham	1853	
Wright, P. H.	Macon	Bibb	1869	1888
Yonge, Easton	Savannah	Chatham	1880	

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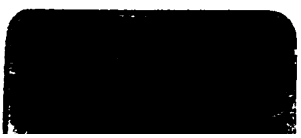

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